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MONTHLY BULLETIN

# HEALTH DEPARTMENT

CITY OF BOSTON

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FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the EDITOR MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

VOL. 17. BOSTON, JANUARY, 1928. NO. 1

## MORTALITY AND MORBIDITY STATISTICS.—RÉSUMÉ OF ACTIVITIES, 1927.

### Estimated Deaths and Rates for Calendar Year 1927, Compared with Actual Deaths and Rates for Previous Years.

*Deaths.*— The health of the people of Boston, as indicated by the mortality statistics for the calendar year 1927, was exceptionally good. The number of deaths for the year was 11,102 — of which 15 per cent were nonresidents — and based on a population of 793,000, shows a death rate of 14 per 1,000 of the population. In only one previous year, 1921, when the death rate was 13.49 was this year's record excelled. There was a decrease of over 617 actual deaths during the year 1927, as compared with 1926.

*Live Births.*— The total number of live births was 18,950, and shows an increase over the total for 1926, of over 310. The birth rate for 1927 based on this figure (18,950) is 23.90 per 1,000 of the population as against 23.68 for 1926 and 23.74 for 1925. It must be pointed out that even now the birth rate is still low as it is admitted that a normal birth rate for a large city should be about 25 per 1,000 population. Whether Boston's birth rate be absolutely low, or merely apparently so, because of a greater tendency of young families to reside outside the city limits of Boston, than in the cities from which the average birth rate has been made up, cannot be definitely stated.

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## BOSTON HEALTH DEPARTMENT.—DEATHS IN BOSTON FOR CALENDAR YEAR 1927, WITH COMPARISONS FOR PREVIOUS FOUR YEARS.

(These figures include residents and nonresidents.)

| | * Total, 1927. | Total, 1926. | Total, 1925. | Total, 1924. | Total, 1923. |
|---|---|---|---|---|---|
| Total deaths | 11,102 | 11,719 | 11,571 | 10,933 | 11,503 |
| Death rate per 1,000 population | (14.00) | (14.89) | (14.77) | (14.07) | (14.93) |
| Total live births | 18,900 | 18,640 | 18,596 | 19,776 | 19,020 |
| Birth rate per 1,000 population | (23.80) | (23.68) | (23.74) | (25.46) | (24.69) |
| Total infant deaths | 1,455 | 1,575 | 1,582 | 1,472 | 1,569 |
| Infant mortality rate per 1,000 live births | (76.78) | (84.49) | (85.1) | (74.4) | (82.5) |
| Total deaths over sixty years | 4,392 | 4,549 | 4,360 | 4,000 | 4,265 |
| Deaths of mothers from pregnancy | 140 | 137 | 125 | 150 | 137 |
| Maternal mortality rate per 1,000 live births and stillbirths | (7.2) | (7.1) | (6.5) | (7.3) | (7.0) |

(These figures include residents and nonresidents.)

| | * Total, 1927. | Total, 1926. | Total, 1925. | Total, 1924. | Total, 1923. |
|---|---|---|---|---|---|
| TOTAL DEATHS FROM: | | | | | |
| Anterior poliomyelitis | 63 | 7 | 9 | 6 | 10 |
| Cerebrospinal meningitis | 29 | 26 | 24 | 19 | 22 |
| Diphtheria | 60 | 54 | 99 | 168 | 173 |
| Influenza | 37 | 76 | 81 | 30 | 97 |
| Measles | 40 | 60 | 113 | 44 | 57 |
| Pneumonia (broncho) | 583 | 680 | 624 | 542 | 678 |
| Pneumonia (lobar) | 530 | 602 | 557 | 482 | 635 |
| Scarlet fever | 53 | 38 | 47 | 51 | 58 |
| Tuberculosis (pulmonary) | 601 | 684 | 670 | 670 | 677 |
| Tuberculosis (other forms) | 82 | 110 | 117 | 114 | 114 |
| Typhoid fever | 9 | 14 | 27 | 15 | 10 |
| Whooping cough | 31 | 108 | 69 | 21 | 109 |

(These figures include residents and nonresidents.)

| | * Total, 1927. | Total, 1926. | Total, 1925. | Total, 1924. | Total, 1923. |
|---|---|---|---|---|---|
| TOTAL DEATHS FROM: | | | | | |
| Heart disease | 2,134 | 2,279 | 2,008 | 1,742 | 1,880 |
| Nephritis (chronic) | 663 | 660 | 591 | 577 | 649 |
| Cerebral hemorrhage | 598 | 625 | 689 | 749 | 705 |
| Arteriosclerosis | 242 | 326 | 396 | 392 | 404 |
| Totals | 3,637 | 3,890 | 2,684 | 3,460 | 3,638 |

(These figures include residents and nonresidents.)

| | * Total, 1927. | Total, 1926. | Total, 1925. | Total, 1924. | Total, 1923. |
|---|---|---|---|---|---|
| TOTAL DEATHS FROM: | | | | | |
| Cancer | 1,228 | 1,179 | 1,159 | 1,189 | 1,142 |
| Diarrhea and enteritis (under two years) | 230 | 231 | 157 | 162 | 148 |
| Accidents | 602 | 602 | 660 | 608 | 636 |
| Suicides | 101 | 105 | 111 | 109 | 123 |
| Homicides | 31 | 31 | 27 | 40 | 37 |
| Diabetes mellitus | 187 | 206 | 166 | 184 | 187 |
| Alcoholism | 143 | 148 | 197 | 210 | 170 |

* 1927 totals subject to slight revision.

## Cases and Deaths from Communicable Diseases Reported During 1927, 1926, 1925 and 1924.

| | 1927. Cases. | 1927. Deaths. | 1926. Cases. | 1926. Deaths. | 1925. Cases. | 1925. Deaths. | 1924. Cases. | 1924. Deaths. |
|---|---|---|---|---|---|---|---|---|
| Actinomycosis | 4 | 3 | 1 | 1 | 1 | 1 | 3 | 2 |
| Anterior poliomyelitis | 413 | 63 | 29 | 7 | 46 | 9 | 76 | 6 |
| Anthrax | — | — | — | — | — | — | 2 | — |
| Cerebrospinal meningitis | 34 | 29 | 41 | 26 | 42 | 24 | 35 | 19 |
| Chicken pox | 2,787 | 1 | 2,117 | 4 | 1,516 | 2 | 1,886 | 3 |
| Diphtheria | 1,369 | 60 | 982 | 54 | 1,256 | 99 | 2,521 | 168 |
| Dog bite (requiring anti-rabic treatment) | 82 | — | 36 | — | 21 | — | 67 | — |
| Cat bite | 3 | — | 1 | — | 1 | — | 1 | — |
| Dysentery: | | | | | | | | |
| Amebic | 1 | — | 1 | — | 5 | 1 | 3 | 3 |
| Bacillary | 8 | 4 | 5 | 2 | 20 | 3 | 8 | 1 |
| Flexner | — | — | — | — | — | — | 1 | — |
| Shiga | — | — | — | — | — | — | 2 | — |
| Not specified | 3 | 3 | 5 | 5 | 2 | 2 | 9 | — |
| Encephalitis lethargica | 25 | 12 | 30 | 18 | 59 | 32 | 42 | 16 |
| German measles | 159 | — | 2,062 | 2 | 586 | — | 191 | 1 |
| Hookworm | — | — | 8 | — | 20 | — | 16 | — |
| Influenza | 186 | 37 | 411 | 76 | 357 | 83 | 127 | 30 |
| Malaria | 4 | — | 8 | — | 3 | 1 | 11 | — |
| Measles | 4,433 | 40 | 4,331 | 60 | 6,683 | 114 | 4,758 | 44 |
| Mumps | 2,365 | — | 1,577 | — | 283 | — | 719 | — |
| Pellagra | 9 | 4 | 6 | 2 | 10 | 3 | 17 | 7 |
| Pneumonia (lobar) | 1,390 | 530 | 1,603 | 607 | 1,807 | 560 | 1,565 | 482 |
| Rabies in man | 1 | 1 | — | — | — | — | — | — |
| Scarlet fever | 4,110 | 53 | 3,064 | 38 | 2,873 | 48 | 3,844 | 51 |
| Septic sore throat | 73 | 15 | 67 | 11 | 68 | 15 | 79 | 11 |
| Tetanus | 5 | 4 | 12 | 7 | 21 | 8 | 17 | 6 |
| Trachoma | 28 | — | 32 | — | 62 | — | 42 | — |
| Trichinosis | 0 | — | 6 | — | 17 | 1 | 33 | 1 |
| Tuberculosis (pulmonary) | 1,511 | 601 | 1,720 | 684 | 1,841 | 667 | 1,872 | 670 |
| Tuberculosis (other forms) | 303 | 82 | 352 | 110 | 342 | 116 | 382 | 114 |
| Typhoid fever | 121 | 9 | 139 | 14 | 151 | 27 | 101 | 15 |
| Typhus fever | 0 | 0 | — | — | 2 | — | — | — |
| Whooping cough | 1,123 | 31 | 3,575 | 108 | 2,022 | 69 | 655 | 21 |
| Totals | 20,550 | 1,582 | 22,221 | 1,836 | 20,117 | 1,885 | 11,085 | 1,671 |

There were also reported 1,101 cases of ophthalmia; 2,351 cases and 1 death from gonorrhea, and 799 cases of syphilis with 52 deaths for calendar year 1927.

*Infant Deaths.*— The total infant deaths numbered 1,455 and is the lowest number of deaths ever recorded in Boston (our figures on infant deaths go back to 1871) and shows an infant mortality rate of 76.78 as compared with a rate of 84.49 last year, 85.07 in 1925, and 74.4 in 1924. This city has an annual average of 20 per cent of nonresident deaths under one year of age. As deaths attributed to gastro-intestinal infections have decreased in comparison with the previous decade, deaths from infections of the respiratory tract, and deaths attributable to congenital defectiveness stand out more prominently. Of the 1,455 infant deaths last year, 727 occurred within the first month of life. While all these 727 infants may not have been congenital defectives, most of them were, as were also many whose lives were prolonged beyond the first month. It is quite evident that the outstanding infant welfare problem in Boston today is the production of normal human offspring.

*Typhoid Fever.*— The death rate from typhoid fever sometimes referred to as the index by which efficient health administration is judged, shows Boston occupying an enviable position as compared with other cities. Our total deaths from this disease, nine in number, produced a death rate of 1.13 per 100,000 of the population, a record which is probably excelled by no other large city in the world and is equalled, if at all, by only a few. This record is all the more remarkable because two local outbreaks of typhoid fever from unusual causes during the year brought the total reported cases of the disease in residents of Boston up to ninety-nine. There were also reported within the city, chiefly from hospitals, twenty-two cases of the disease in nonresidents. The nine fatal cases therefrom represent the mortality from 121 cases of typhoid fever.

*Diphtheria.*— Deaths from diphtheria, sixty, were six greater than last year, but were much lower than for any year previous to 1926.

Boston, in common with many other cities in which a decrease of cases and deaths from diphtheria has been coincident with active efforts to bring about the artificial immunization of children in recent years, shows during the past year a slight tendency for both reported cases and deaths to increase. This is not at all surprising to those familiar with the epidemiology of this disease, past and present. Even before antitoxin came into common use for the treatment of diphtheria, nearly thirty-five years ago, it was evident that certain biological factors not well understood were operating to make diphtheria a less dangerous scourge than it previously had been. It does not detract from the incalculable value of antitoxin to state that these natural factors have been operative also down to

the present to reduce the danger of the presence of diphtheria, at least in an urban population like Boston.

The results of the immunization of children in every community where it has been applied in recent years have been too immediate and striking to leave any doubt but that this procedure has been the chief factor in the reduction in cases of diphtheria which has followed.

All common communicable diseases fluctuate in prevalence from year to year and usually over periods covering several years regardless of the ultimate tendency of the disease with respect to prevalence or seriousness.

It has been evident to those who have given close attention to efforts at the artificial immunization of children against diphtheria by the toxin antitoxin procedure, that other factors favorable to the reduction of the prevalence of the disease were also operating. In view of the tendency of disease to fluctuate in prevalence from natural causes it would not be surprising to witness a slight increase in both cases, and deaths from diphtheria for two or three years or possibly longer, even in communities where the artificial immunization of children against diphtheria is being actively carried on, 100 per cent artificial immunization is practically impossible anywhere, but eventually we will see both cases and deaths from diphtheria reduced below any minimum that has hitherto been recorded.

*Tuberculosis.*— Deaths from tuberculosis, all forms, approximately 683, will give a death rate of 86.1 per 100,000 of the population, the lowest rate ever recorded in Boston. Likewise the deaths from pulmonary tuberculosis, taken alone, approximately 601, with a rate of 75.8 per 100,000 of the population, will be the lowest rate ever attained in this city.

During the year there has been a readjustment and reorganization of municipal departments, whereby there has been brought about what should be more effective methods for handling Boston's tuberculosis problem. While it is confidently expected that the new methods will soon show direct and definite results in the reduction of deaths and economic loss from tuberculosis, it is not probable that the changes of the past year are accountable for the low record of deaths above noted. It would rather seem that fatal tuberculosis infections are showing in Boston as in many other cities a tendency to decrease attributable to biological or economic factors.

*Reportable Diseases.*— Decreases in deaths during 1927, as compared with 1926, were shown in the following reportable diseases: Typhoid fever, tuberculosis, measles, whooping cough, influenza and lobar pneumonia. (See table.) Increases were shown in deaths from diphtheria and scarlet fever.

*General Diseases.*— Increases were shown in the reported deaths during 1927, as compared with 1926 in the following diseases: Cancer, puerperal diseases and nephritis. Decreases were shown in deaths from diabetes, arteriosclerosis, heart disease, cerebral hemorrhage and broncho-pneumonia. In all these diseases, however, the changes in the death rate as compared with 1926, or other recent years, are so small as probably to be without significance.

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## ACTIVITIES.

*Expenditures and Employees.*— The amount of money expended during the year was $815,000, about $1.02 per capita. The number of employees averaged 340.

*Regulations.*— New regulations have been promulgated concerning barbers and barber shops, and the manufacture of ice cream establishments.

*Dumps.*— Approximately fifty dumps have been licensed by this department during the year, and much swampy land has been filled with discarded rubbish and material. The department has endeavored to keep them in such condition as to avoid complaints, and the Public Works Department and the Fire Department have co-operated in every way.

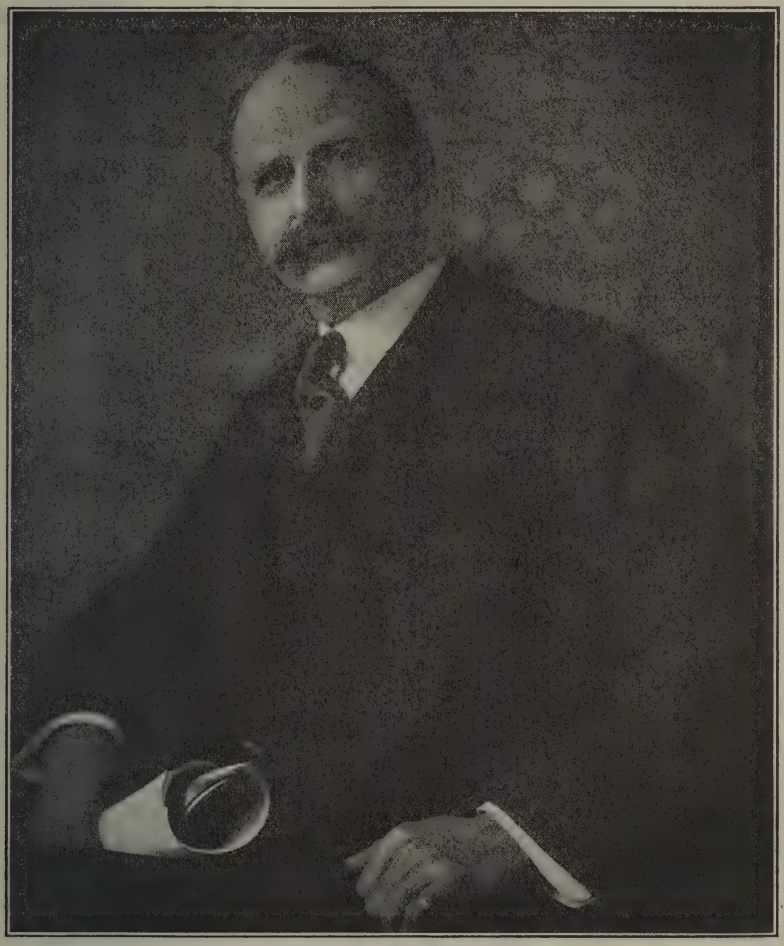
*Convenience Stations.*— These stations are in good condition and, with the exception of one station, all have been painted inside and out during the year.

*Spectacle Island.*— This plant is in better condition than ever, and through advice, co-operation, and the installation of a chlorine apparatus for controlling the odors, there has been no cause for complaint this year.

*Removal of Indigent Cases.*— The Institutions Department of the city has co-operated greatly with the Sanitary Division with the result that in twenty instances indigent and neglected persons were removed for better care and treatment, and the premises examined for insanitary conditions.

*Retirements.*— Included in the retirements of employees who have reached the age of seventy years were two who in point of service were the longest in the service of the department. One, William W. Griffin, a clerk in the Bureau of Milk Inspection, who served in that capacity under Professor Jordan since 1895, retired upon reaching the age limit. He was a faithful, courteous, and willing employee, and his separation from the service was felt by all who knew him.

The other, Frederick S. Davis, Deputy Commissioner in charge of the Division of Vital Statistics, Records and Accounts, first entered the service of the Health Department in 1881 as a clerk. He later became the bookkeeper of the department, and on the re-organization of the Health Department in 1915 he was promoted to the position of secretary. In this capacity he served



FREDERICK S. DAVIS.

until the following year when he was appointed Deputy Commissioner in charge of the Division of Vital Statistics, Records and Accounts. Although seventy years of age, physically and mentally he was a man of much younger years both in appearance and action, and during his entire service with the department he was never absent from duty because of illness, until three years ago when he

was ill because of a slight operation. This is one of those striking instances where the age of a man does not absolutely determine his fitness for work after seventy years of age. Mr. Davis' genial personality and his varied interest and activities outside of his official duties served to make "Fred" Davis one of the best known men in Boston. He was especially interested in horticulture and was a member of the Massachusetts Horticultural Society for many years. During his time he had seen the Boston Health Department grow from a comparatively few employees to three hundred and forty, from a small appropriation to almost a million a year, from a few activities in disease prevention and control to a great department with a score of activities, and has witnessed that transition in public health where we had become concerned with the individual rather than his environment — from the "old public health" to the "new public health."

*Prosecutions.*— During the year there were fifty prosecutions instituted by the Sanitary Division, twenty-seven by the Food Division, fifty-six by the Bureau of Milk Inspection, and three by the Medical Division.

*Other City Departments.*— Acknowledgment is due to several city and state departments for their co-operation during the year, and special mention might be made of the Police, Fire, Institutions, Public Works Departments, and the State Department of Health, State Department of Labor and Industries, and Department of Civil Service.

*Convention.*— The annual meeting of the American Public Health Association held in Cincinnati in October was attended by Health Commissioner F. X. Mahoney, Prof. James O. Jordan and Dr. Charles F. Wilinsky.

*Tuberculosis Service.*— During the year a notable change was made in the administration of the tuberculosis problem in this city, and by city ordinance the Out-Patient Department of the Boston Sanatorium, with its staff of physicians, nurses, and equipment, was transferred to the Boston Health Department. The hospital at Mattapan became a part of the Boston City Hospital.

In April a Division of Tuberculosis was created within the Health Department and a director later appointed, Dr. George T. O'Donnell, for ten years a district health officer of the State Department of Health. The Out-Patient Department became a dispensary and similar dispensary facilities were established in all of the health units and in many of the municipal buildings that were already used for other clinic purposes. An X-ray expert, a technician, X-ray equipment, and a staff of sixteen physicians, all of whom are

recommended by the deans of the Medical Schools, are in service at the clinics where night and day facilities are provided for examination for tuberculosis.

Districts, files, nurses, equipment were changed and increased and intensive work started at once.

A policy was entered into late in July between the state and the city departments of health, which was, in substance, an agreement that no case would be admitted to a state hospital without first passing through the Division of Tuberculosis of this department. Exception was made in the case of children because of the shortage of beds. By pursuing this method of admission, the City of Boston is in a position to investigate legal settlement and responsibility, which precludes the possibility of unduly loading the local hospital with cases which are not the responsibility of the City of Boston. At the same time an agreement was made between the City Hospital trustees and the Boston Health Department, giving the power of admission to the tuberculosis hospital at Mattapan to the Division of Tuberculosis of this department.

More accommodations are necessary and more beds will be required to care for Boston patients suffering from tuberculosis. The Mayor and the City Hospital trustees are considering this problem, and it would appear that they will provide additiona facilities the coming year for caring for the increasing number of patients that must be hospitalized in a local hospital.

It might not be amiss to mention here that by this concentrated and co-operative method of caring for tuberculosis much has already been accomplished. The year just closed showed 1,511 cases and 601 deaths from pulmonary tuberculosis and 303 cases and 82 deaths from other forms of this disease.

*Preventoria.*— In addition to the North End Preventorium, which has been in operation for the previous two summers, two additional preventoria were opened this past summer, one at the South End Unit and one at the East Boston Unit. These centers operated for a total of forty-seven days in July and August and the total attendance was 4,936, the daily average being 104. All children before being admitted to a preventorium were examined and recommended by the chief examining physician. The encouraging results of the work for this year warrant the continuance of this program on a larger scale in the coming summer months.

*Communicable Diseases.*— As the accompanying table indicates there has been an improvement over cases and deaths from communicable diseases over last year. It is gratifying to note the de-

crease in tuberculosis cases and deaths over the previous three years when the number of deaths were almost the same and it appeared that the low mark had been reached.

The general death rate, infant rate, and typhoid fever rate, are all encouraging.

Energetic work on the part of the department in outbreaks of typhoid, septic sore throats, and infantile paralysis, kept the cases down to a minimum.

*Anterior Poliomyelitis.*— Although the State of Massachusetts experienced the worst epidemic of infantile paralysis in its history, this city suffered little in comparison with other cities in Massachusetts. In Boston all cases and suspected cases were visited by a medical inspector to investigate conditions and verify diagnosis, and to give the family the benefit of all the information which it possessed regarding the disease and methods of treatment. As soon as signs of unusual prevalence of the disease appeared the staff of the division was supplemented by the temporary employment of a neurologist who assisted greatly in the intensive work that was carried on to control the ravages of this disease.

*Rabies.*— Rabies among dogs and other animals is on the increase and at an alarming rate, and the department is doing everything possible in follow-up work, investigating, examining dogs, and providing serum treatment. During the year sixty-three persons who were unable to pay for treatment themselves were given antirabic treatment at the expense of the city. The Mayor and City Council promulgated an order which obliges all dog owners to leash their dogs, when on a public thoroughfare, for a period of ninety days from December 15.

*Venereal Diseases.*— The number of cases of venereal diseases, regarding which action by the Medical Division is required, preserve a curious and inexplicable consistency year after year. The laws and activity of both official and private agencies which have been directed toward venereal diseases the past ten years are doubtless promoting better treatment, but it is doubtful if they are decreasing in prevalence.

*Conservation Work.*— The work of the Conservation Division as carried on by Professor Bovie has been discontinued, he having accepted an appointment at the Northwestern Medical School, Chicago, but the research in encephalitis lethargica continues under Doctor Viets at Long Island Hospital, as well as that of the Whooping Cough Commission under Doctor Smith at the Harvard Medical School.

*Child Hygiene.*— The staff of pediatricians selected by the Pediatrics Department of the three medical schools, Harvard, Tufts and Boston University, continue to function in an admirable way, and the professors of pediatrics in these schools act as an advisory committee to the Child Hygiene Division. The group representing each school has a supervisor whose duties are to visit the conferences, exercising control over the technique observed, as well as the service given to the community.

*Parochial Schools.*— A close alliance and comprehensive medical program in the parochial schools has been operated since October. Medical inspectors of the Child Hygiene Division examine every child in the entering classes in these schools, in the health unit districts. Toxin-antitoxin administrations are also given to all children in these schools who obtain the consent of their parents.

*Health Units.*— The South Boston Health Unit was dedicated and opened this year and the trustees of the White Fund have voted that the next unit will be located in Charlestown.

*Co-operation with the Tuberculosis Program.*— The decentralization of the tuberculosis program in this city has led to the installation of tuberculosis clinics in all of the health units that are equipped with complete X-ray service, and service is offered day and night.

During the three years in which the Health Department has maintained supervision over the entire baby and pre-school age child hygiene program in Boston (having assumed all of the work in this regard done by the volunteer agency) the program has been constantly expanding. New clinics have been established, more nurses and doctors employed, larger groups of children are being brought by interested and watchful mothers to the clinics, and the progress generally has been marked.

The nursing service of the department which affords service for the work carried on by the Medical Division and the Division of Child Hygiene has functioned very effectively the past year. Under a director of nursing service there are six supervising nurses and 105 nurses. One hundred and ninety-seven thousand visits were made during the year, of which 175,000 were to the homes. There were 65,000 in the attendance record of babies and pre-school age children at child health clinics.

Mothers of babies have co-operated in every way to assist the nurses in their advice in the care and treatment of babies, and it is evident that much good has been accomplished by the efforts of the nurses. The conference stations, clinics, and units have been liberally patronized by mothers and children. The infant death

rate of babies under one year of age is very encouraging, and the past year is one of the best on record in this respect.

*Food Inspection.*— Because the Federal Government withdrew inspection at the Brighton Abattoir it became necessary for this department to appoint four men to carry on this work of inspection at that plant.

There were large condemnations during the year; one consignment of ten tons of beef that had decomposed in its way from Canada because of insufficient salting and refrigeration.

In a sausage manufacturing establishment almost 5,000 pounds of shin beef, pork, veal and rinds were condemned because the meat had become sour and decomposed. The inspectors also supervised the dumping of 50,000 cans of salmon which had been located in a warehouse and were in a decomposed and liquefying condition. The greatest seizure in the history of the Health Department occurred when 2,900,000 pounds of potatoes were condemned and dumped.

Two shipments of poultry from Maine, arriving in a dead or dying condition, were found after examination to be suffering with a form of pneumonia. Toward the end of the year 6,500 pounds of turkey were seized and condemned, 30,000 pounds of wormy and decomposed raisins, and 72,000 pounds of moldy grapes.

There have been upwards of 50,000 inspections made of food establishments; 700 bakeries were given semiannual inspections, and under the provisions of a new law eighty-five ice cream establishments were licensed.

Samples of walnut meats in warehouses and at soda fountains were taken, these meats having been shipped to this country from China, France, Greece, Italy and Roumania. The laboratory reports indicated that these samples, with the exception of the Roumanian lot, bore evidence of bacteria, more particularly, B-coli. Conferences were held with the State and Federal inspectors and it was determined that the condition of the nut meat did not constitute a menace to the public health, with the exception of the nut meat from China, which bore evidences of dirt and human hair. The walnut meat from the other countries was released for commercial use. As a result of this survey and these conferences, nut meats from foreign countries must hereafter be accompanied by a certificate from the United States Consul that they were produced under sanitary conditions.

*Dairy Inspection.*— There has been an increased number of Grade "A" dairies and a wonderful improvement has been made in the condition of country creameries and city milk plants. Our inspectors have been constantly urging milk dealers to improve

not only their plants but to replace worn out and obsolete equipment with modern apparatus with the result that two dealers have erected modern plants fully equipped throughout with the latest type milk machinery at a cost of approximately $170,000 and fifty-seven others have spent over $300,000 in remodeling their plants and installing modern bottle washers, pasteurizers and coolers.

The Maine Department of Agriculture continues to co-operate by excluding from Maine creameries and butter factories all dairies that have been excluded from the Boston market. During the year an agreement was entered into by the Agricultural Commissioner of Vermont and this department whereby the State of Vermont will enforce our exclusions on Vermont creameries and butter factories and this department has agreed in turn to exclude from the local market any dairies that have been excluded by the State of Vermont.

During the summer the officials of the Dairy Division accompanied state officials and Mr. G. W. Putnam of the Chicago Health Department and Mr. Leslie Frank of the United States Public Health Society on a tour of the processing plants supplying milk to Boston. These experts were much impressed by what the dairy inspectors had done to correct pasteurizing defects pointed out by them last year at the American Public Health Association convention in Buffalo. At the present time all processing plants in Boston and metropolitan Boston delivering milk in this city are fully equipped to meet the requirements of the state pasteurizing bill, which went into effect December 15, 1927.

*Laboratory Progress.*— Once each week, throughout the year all waters in public and semi-public places and private pools and bathing places in the city are sampled and analyzed. An exhaustive survey of routine washing measures adopted in public laundries was made in the spring and summer months with the view of inaugurating specific regulations regarding the laundry industry. The laboratory has taken over all laboratory work that was done in conjunction with the work on tuberculosis in the city since the Health Department assumed control, and it is also co-operating in any and all research problems that are contemplated by the Tuberculosis Division.

Additional urine and feces examinations have been carried on this year because of commercial establishments having their employees examined for potential typhoid carriers and the physicians submitting specimens for examinations. A number of dentists in the city are now sending in material from diseased teeth, which are examined for spirillim of Vincent's angina.

*Milk Inspection.*— The standard of milk sold in this city has improved and the results of tests of samples published each month in the "Bulletin" has served to encourage the sale of milk of a high grade. The Vermont flood deprived Boston of much of its milk supply for several days, and inasmuch as 52 per cent of Boston's milk comes from this state it is apparent the difficulty that Boston milkmen had to meet. It may be said that they did everything possible to assist in getting milk to Boston from other states until the Vermont situation became nearly normal.

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## MENINGOCOCCUS MENINGITIS.

The United States Public Health Reports for December 30, 1927, state that although returns for 1927 were not yet complete, more cases of meningococcus meningitis had been reported in this country during the year than for the preceding two years.

There are factors in the causation of an epidemic outbreak of this disease which are not understood. The virulence of the organism or vulnerability on the part of people may either or both be involved when the disease manifests itself in serious epidemics such as occurred in the early part of this century. Investigations made on these occasions would indicate that healthy carriers of the meningococcus are the chief source of infection and that when the carriers reach a certain proportion in a community meningococcus meningitis may be expected to appear in an epidemic form. It has also been observed that persons who have long been carriers without harmful effects may for reasons not yet understood develop the disease.

The meningococcus is found in the upper air passages of carriers. Efforts to "clean up" carriers during the colder months of the year by any of the various methods of treatment which have been tried have been notably unsuccessful. With the advent of warm weather and life in the open air, carriers usually lose their meningococci with remarkable rapidity.

Meningococci quickly die outside the human body. A slight chilling even suffices to kill them. In order to obtain laboratory cultures, the material collected from the nasal passages must be maintained at body temperature while being transferred to a warm culture medium in the laboratory. For this reason, it would appear that intimate contact must be necessary for the spread of meningococci in a community and that any measures which would serve to keep people apart would tend to check the spread of meningococci in a household or the community and consequently to prevent the active infection of susceptible individuals.

## DEATH OF JAMES O. JORDAN.

Prof. James O. Jordan, milk inspector of this department, died on January 6 after a brief illness, at the New England Baptist Hospital, where he went on December 21 to "rest up."

Professor Jordan was born in Lisbon, Me., May 26, 1864, and came to this city when he was sixteen years of age. He entered the College of Pharmacy and after graduation he was appointed a chemist in the Bureau of Milk Inspection of the City of Boston. He held this position for twenty-one years and was promoted to the position of milk inspector on the death of the late Prof. Charles P. Harrington in 1895. He was a member of the College of Pharmacy Corporation from 1884 until 1894 when he became a life member of it. He served as instructor of chemistry and later from 1898 to 1923 was Professor of General and Pharmaceutical Chemistry and Physics at the college. In 1897 he was appointed assistant in *materia medica* at the Harvard Medical School and served in that capacity for more than ten years.

Professor Jordan was a member of the American Public Health Association where he was for many years secretary of the Section of Food and Drugs, a member of the Executive Committee of the Massachusetts Association of Boards of Health, a member of the Boston Medical Milk Commission, and the Massachusetts Milk Inspectors' Association, besides a number of social and fraternal organizations.

Professor Jordan devoted his entire life to the enforcement of milk laws and the enactment of legislation that would further the quality of milk and milk products to prevent the sale of inferior milk, vinegar, ice cream, etc. He was an indefatigable worker in the cause of pure food, and was a foe to the violator of the milk laws and regulations. He was nationally known for his successful endeavors and continued the pioneer milk work of the late Prof. Charles P. Harrington. Professor Jordan served on many legislative committees of organizations and associations interested in public health, and was the author of many papers and monographs on the different phases of the milk problem, many of which he read before organizations meetings.

## VITAL STATISTICS FOR MEDICAL MEN.

*(The following notes are a continuation of the series by Dr. Frederick L. Hoffman, consulting statistician, that began in the last issue of the "Bulletin." As explained at that time, these notes will be so written as to make them readable and attractive to medical men, public health workers and laymen, and in such a manner that they will show their direct relation and value to the prevention of disease and prolongation of life.)*

### The Death Rate.

Quantitively a mere statement of the number of deaths in a given community has small value. All such deaths must, therefore, be correlated to living populations for the purpose of a death rate which is usually given on the basis of 1,000. This procedure also has international sanction for the purpose of facilitating local, national and international comparison. In 1925 there were 955,047 deaths in the United States registration area which on the basis of the estimated population is equivalent to a death rate of 11.7 per 1,000. This is known as the crude death rate which is limited in its application to general purposes, for naturally the death rate is affected by the age, sex, racial and occupational distribution of the population. But for general purposes the crude death rate is the most significant index of general well being. As a matter of interest the following international death rates may serve a useful purpose. Unless otherwise stated, all the rates are for 1925.

| | | | |
|---|---|---|---|
| Chile | 29.8 | Scotland | 13.4 |
| British India | 27.9 | England and Wales | 12.2 |
| Soviet Republic, 1923 | 21.5 | Belgium | 12.2 |
| Japan, 1924 | 21.2 | Switzerland | 12.2 |
| Philippines, 1924 | 20.3 | Germany | 11.9 |
| Spain | 19.4 | Sweden | 11.7 |
| France | 17.6 | Norway | 10.9 |
| Hungary | 17.1 | Demnark | 10.9 |
| Italy, 1924 | 16.6 | Netherlands | 9.8 |
| Finland, 1924 | 16.4 | Canada, excluding Quebec | 9.7 |
| Egypt | 16.0 | Union of South Africa | 9.5 |
| Northern Ireland | 15.5 | Australia | 9.2 |
| Argentina, 1924 | 13.9 | New Zealand | 8.3 |
| Irish Free State | 13.8 | | |

There are likewise, of course, considerable variations in the death rate for our several states. These are affected, as elsewhere, by local conditions and often a comparison is inadmissible, particularly in such states as Colorado and New Mexico, which attract relatively large numbers of invalids for climatic treatment. These considerations become still more important with reference to particular localities, so that extreme caution is necessary in using crude death rates in arriving at conclusions as to the particular salubrity of any given section. In this country it may be said that

climate and weather conditions have now relatively unimportant effects upon the general death rate. The southern states which in former years were looked upon with apprehensions have now general death rates for the white population which conform closely to the general average.

### Specific Death Rates.

To eliminate the disturbing factor of variable age and sex proportions in a death rate, specific death rates by divisional periods of life are frequently calculated and often indispensable for precise scientific purposes. In other words, what is required to be known is not so much the mortality at all ages but at particular age groups for purpose of comparison with similar groups or with similar causes of death. Unfortunately, the calculation of specific death rate requires a knowledge of the age and sex distribution of a given population which are often difficult to calculate with accuracy in intercensal years in view of possible abnormal population growth. Such calculations are best made by the Census Office, which, however, is limited in the scope of its operations. Specific death rates are generally calculated on the basis of 100,000 of population. Such rates emphasize the overwhelming influence of particular causes of death upon the general death rate, also other factors such as sex and race. The specific death rates start with a maximum of 7,623.6 for the population under one year, reaching a minimum of 169.8 at ages ten to fourteen, gradually increasing to 1,103.2 at ages forty-five to fifty-four and reaching a maximum of 13,270.1 at ages seventy-five and over. These rates are for both sexes and for the white population only. An abnormally large proportion of young or old people in a given population, therefore, tends to materially raise the crude death rate and makes comparison with more normal localities inadmissible.

### Age and Sex.

The sex factor is of considerable importance in the death rate particularly as will be shown subsequently in studying specific causes. Limiting the present observations to mortality from all causes, it appears that in 1924 the male death rate was 12.09 per 1,000, while the female rate, unadjusted for age differences, was only 10.57 per 1,000. When these rates are compared by divisional periods of life, the differences become still more pronounced. Without extending this discussion too far, the following comparison will be limited to the productive period of life, 15 to 54. At ages 15–19 the white male rate is 316 while the female rate is 278.7. At ages 20–24, the male rate is 395.4 and the female

rate 373.4. At ages 25–34 the male rate is 428.5 and the female rate 412.5. At ages 35–44, the male rate is 698.8 and the female rate is 508.6 and at ages 45–54 the male rate is 1,187.3 and the female rate 1,008.9. It is thus shown that during the productive period of life, men without exception have a higher specific death rate than women. This disparity is unquestionably largely attributable to occupation, particularly in the case of men exposed to dust, gases and fumes in dangerous trades, also at the same time to a higher specific liablilty to industrial accidents. Aside from this, it is a reasonable conjecture that health injuries habits in the case of men also have a measurable effect upon the death rate.

*(To be continued.)*

## BOSTON'S MILK AND THE VERMONT FLOOD.

Boston's milk supply was seriously impaired because of the flood in Vermont. Fifty-two per cent of the milk of this city comes from Vermont and for four or five days after the flood our receipts of milk were seriously upset and many of the milkmen had but very little milk with which to supply their trade. Reliance on trucks to do the hauling of the milk relieved the situation, so far as the milk was concerned, but all of the milk that came from Vermont did not enter in that way. The shortage lasted about four days and then the milk began to come in slowly, but Vermont is doing its part to provide the milk we use for food purposes, but is far behind that which is going into cream, which supply has been seriously interfered with.

The milkmen of Boston have done everything possible to supply the Boston trade with its milk; their main object was to secure the milk regardless of cost or distance. The farmers of Vermont who raised the milk for Boston's consumption suffered greatly by the flood, not only because of interference with their daily sale of their milk, but there were those who lost everything they possessed by this catastrophe.

## RESTRAINT OF DOGS.

The request sent to Mayor Malcolm E. Nichols asking that he submit to the City Council an order that all dogs within the limits of the City of Boston be restrained for a period of ninety days, and the members of the police force be authorized and empowered to make special service upon the owner or keeper of each dog within the limits of the City of Boston by delivering to the owner or keeper of such dog a certified copy of this order was adopted by the City Council at its meeting December 19, 1927, and approved by the Mayor after its passage by that body.

## SURVEY OF THE QUALITY OF BOSTON MARKET MILK.

The following is the result of a survey made of market milk sold in Boston by dealers and chain stores during December, 1927. In Massachusetts the statute law requires a minimum of 12 per cent solids and 3.35 per cent butter fat; for bacteria it is required that it contain not more than 100,000 per cubic centimeter.

| Name of Dealer. | Solids. | Fat. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|
| | Per Cent. | Per Cent. | |
| Allen, Fred H. | 12.54 | 3.90 | 24 |
| Antetomasso, Peter | 13.12 | 4.33 | 12 |
| Barron, C. W. | 14.40 | 5.30 | 18 |
| Bergmann, J. H. | 12.67 | 4.00 | 50 |
| Bolio, William | 12.66 | 3.85 | 21 |
| Brandley, F. J. & P. J. | 12.56 | 4.05 | 16 |
| Casey, James | 12.34 | 3.75 | 18 |
| Cashin, James | 12.77 | 3.93 | 18 |
| Cedar Hill | 14.24 | 4.95 | 16 |
| Chapin, George | 12.80 | 4.05 | 12 |
| Clapp, Frank L. | 13.70 | 4.40 | 20 |
| Clark, Levi | 12.49 | 3.80 | 18 |
| Coleman, David | 12.50 | 3.97 | 12 |
| Converse, M. M. | 13.53 | 4.50 | 9 |
| Corkery, J. J. | 12.48 | 3.90 | 76 |
| Cosgrove, Martin S. | 12.93 | 3.95 | 19 |
| Cummings, F. S. | 12.25 | 3.80 | 16 |
| Cunningham, Paul | 11.90 | 3.38 | 19 |
| Cusick, W. H. | 12.88 | 3.90 | 120 |
| Dean, Louis W. | 13.48 | 4.53 | 16 |
| Deerfoot Farm | 12.73 | 4.08 | 16 |
| Denehy, Timothy | 13.10 | 4.45 | 100 |
| Driscoll, William B., Company | 12.64 | 3.88 | 17 |
| Edgerly, Frank S. | 12.80 | 4.05 | 18 |
| Elm Spring Farm Company | 12.30 | 3.72 | 34 |
| Ferguson, M. D. | 12.63 | 3.93 | 19 |
| Furbush, A. J. | 13.84 | 4.45 | 16 |
| Garfield, Mason | 15.70 | 6.23 | 19 |
| Garvin, C. E. | 14.92 | 5.78 | 19 |
| Giroux, J. E. & H. J. | 12.34 | 3.73 | 61 |
| Griffin, Joseph L. | 12.83 | 3.92 | 19 |
| Gushee, C. W. | 13.02 | 4.10 | 19 |

| Name of Dealer. | Solids. | Fat. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|
| | Per Cent. | Per Cent. | |
| Herlihy Brothers | 12.66 | 3.90 | 16 |
| Hickey, M. J. | 12.46 | 3.85 | 21 |
| Holden, John E. | 12.53 | 3.95 | 18 |
| Hood, H. P. & Son | 12.40 | 3.90 | 31 |
| Hutchinson, F. T. | 12.06 | 3.60 | 15 |
| Jones, William T., Company | 12.76 | 4.10 | 17 |
| Kendall Brothers | 12.36 | 3.72 | 24 |
| Kingston, Samuel | 12.56 | 3.75 | 18 |
| Knapp, George J. | 12.58 | 4.00 | 25 |
| Lang Brothers | 12.52 | 3.80 | 11 |
| Larson, Charles | 12.15 | 3.68 | 18 |
| Le Baron, Frederick | 14.41 | 5.28 | 46 |
| Lincoln Farms | 11.56 | 3.38 | 16 |
| Lyndonville Creamery | 12.82 | 3.95 | 28 |
| Manning, Peter | 12.00 | 3.35 | 28 |
| McAdams, J. F. | 13.10 | 4.45 | 18 |
| McKernon, James | 12.26 | 3.78 | 34 |
| Millwood Farms | 12.59 | 3.87 | 16 |
| Munchback, George | 12.54 | 3.88 | 21 |
| New England Creamery Products Company | 12.55 | 3.97 | 17 |
| Pope, Frank H. | 12.48 | 3.73 | 17 |
| Redden, F. H. | 12.44 | 4.00 | 49 |
| Robinson, A. J. | 12.67 | 4.18 | 24 |
| Schuster, Adam | 12.85 | 3.83 | 14 |
| Seven Oaks | 12.48 | 3.85 | 22 |
| Shick, Jacob | 12.68 | 3.82 | 19 |
| Somerset Farms | 13.20 | 4.20 | 14 |
| Sterling Farms Milk | 12.64 | 3.74 | 14 |
| Stone, H. L. | 12.57 | 3.85 | 17 |
| Stuart, W. E. | 12.69 | 3.90 | 12 |
| Turner Centre System | 12.33 | 3.73 | 34 |
| United Farmers' Co-operative Creamery | 12.94 | 4.18 | 20 |
| Upland Farms Creamery Company | 12.98 | 4.13 | 24 |
| Vartanian, S. | 12.26 | 3.90 | 16 |
| Vartanian, K. | 12.08 | 3.70 | 10 |
| Walker-Gordon | 12.80 | 4.10 | 8 |
| Weiller, E. & Sons | 12.54 | 3.93 | 31 |
| Westwood Farms | 12.56 | 3.85 | 18 |
| White Brothers | 12.70 | 4.00 | 18 |

| Name of Dealer. | Solids. | Fat. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|
| | Per Cent. | Per Cent. | |
| Whiting Milk Company | 12.36 | 3.76 | 15 |
| Whittemore, W. D. | 12.78 | 4.00 | 24 |
| Wiswall, George A. | 12.69 | 4.03 | 21 |
| Woodland, Charles L. | 12.07 | 3.62 | 20 |

## CHAIN STORE MILK.

| Name of Dealer. | Supplied by. | Solids. | Fat. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| | | Per Cent. | Per Cent. | |
| The Great Atlantic & Pacific Tea Company. | Hood & Sons. | 12.33 | 3.83 | 20 |
| Brown, M. & Sons. | Whiting. | 12.41 | 3.83 | 18 |
| Cloverdale Company. | Turner Centre System. | 12.41 | 3.70 | 18 |
| Economy Grocery Stores. | Whiting. | 12.10 | 3.45 | 19 |
| First National Stores, Inc. | Bellows Falls Co-operative Company. | 12.84 | 4.13 | |
| Morgan Brothers' Company. | Morgan Brothers. | 12.69 | 4.00 | 13 |
| Winer, M. | Hyman Winer. | 12.87 | 4.04 | 24 |

## SUMMARY OF THE WORK, DECEMBER, 1927.

### BUREAU OF ADMINISTRATION.

| | | | |
|---|---|---|---|
| Prosecutions ordered | 3 | Personnel: | |
| Legal notices | 102 | Provisional appointments | 4 |
| Lying-in Hospital approved | 2 | Temporary appointment | 1 |
| Contract awarded | 2 | Resignation | 1 |
| Orders issued | 1 | Suspension | 1 |
| | | Retirement | 1 |
| | | Transfer | 1 |
| | | Services terminated | 1 |

### LICENSES, PERMITS, ETC., ISSUED.

| | | | |
|---|---|---|---|
| Burial permits | 1,059 | Offensive trades | 4 |
| Day nursery | 1 | Ice cream | 3 |
| Denatured alcohol | 33 | Pedlers | 21 |
| Dumps | 25 | Stable permit, final | 1 |
| Hen licenses | 17 | Stable permit, terminated | 1 |
| Manicure-massage | 64 | Stable permit, temporary | 1 |
| Milk | 142 | Fowl permits, revoked | 2 |

## MEDICAL DIVISION.

| | | | |
|---|---|---|---|
| Visits: | | Cases brought to Boston for treatment | 71 |
| By medical inspectors | 1,067 | Deaths investigated | 16 |
| By veterinarian | 216 | | |
| By investigator | 300 | | |

## NURSING SERVICE.

| | | |
|---|---|---|
| Homes Visited | | 18,819 |
| Child Hygiene: | | |
| Visits to old cases | 10,726 | |
| Visits to new cases | 1,454 | |
| Total | | * 12,180 |
| Communicable Diseases: | | |
| Visits to old cases | 4,412 | |
| Visits to new cases | 1,761 | |
| Total | | † 6,173 |
| Tuberculosis: | | |
| Visits to old cases | 3,633 | |
| Visits to new cases | 176 | |
| Total | | ‡ 3,809 |
| Miscellaneous Visits: | | |
| Infant death investigations | 56 | |
| Maternal death investigations | 3 | |
| Patients accompanied to hospitals | 1 | |
| Visits to day nurseries | 24 | |
| Visits to parochial schools | 25 | |
| Other special visits | 66 | |
| Posture clinics | 25 | |
| Total | | 200 |
| Total number of all visits | | 22,362 |
| Hours in stations by nurses | | 3,411 |
| Hours in baby conferences | | § 1,916 |
| Hours in tuberculosis clinics | | 841 |
| Hours in posture clincis | | 189 |
| Hours in parochial schools | | 24 |
| Total number hours | | 6,381 |

## HEALTH UNITS.

| | |
|---|---|
| Miscellaneous Unit Activities: | |
| Complaints of insanitary conditions | 13 |
| Number of persons given health and other information | 1,132 |
| City visitors | 57 |
| Out of city visitors | 7 |

* Includes 114 wrong addresses; 1,356 not seen; 1,470 absent visits.

† Includes 38 wrong addresses; 153 not seen; 191 absent visits; 201 ophthalmia.

‡ Includes 26 wrong addresses; 441 not seen; 47 absent visits.

§ This includes child health conferences, vaccination and diphtheria immunizations at stations.

DENTAL SERVICE:

| | |
|---|---|
| Number of children examined | 1,813 |
| Nol prophylactic administrations | 3,734 |
| Number of cleanings | 196 |

EYE SERVICE:

| | |
|---|---|
| Number of refractions | 75 |
| Number examined for diagnosis | 30 |
| Number of new cases | 31 |
| Number of glasses prescribed | 24 |

CHILD HYGIENE DIVISION:

| | |
|---|---|
| Number of child health conferences | 34 |
| Attendance at conferences | 1,092 |
| New babies at conferences | 145 |
| New pre-school age children at conferences | 44 |
| Number of toxin-antitoxin administrations | 56 |
| Number of vaccinations performed | 70 |
| Number of vaccination certificates issued | 81 |
| Number of examinations for camps and day nurseries | 124 |
| Number of posture clinics | 24 |
| Total attendance at posture clinics | 587 |

TUBERCULOSIS DIVISION:

| | |
|---|---|
| Number of clinics | 42 |
| Total attendance at tuberculosis clinics | 466 |
| New cases | 58 |
| Number of X-rays | 102 |

NURSING SERVICE:

| | |
|---|---|
| Homes visited by nurses | 5,682 |
| Total visits to babies and pre-school age children | 3,371 |
| Total communicable disease visits | 1,777 |
| Total tuberculosis visits | 1,264 |
| Infant death investigation visits | 24 |
| Special visits | 23 |

BOSTON DISPENSARY:

| | |
|---|---|
| Calls by district physician | 233 |

BOSTON LYING-IN HOSPITAL:

| | |
|---|---|
| Number of pre-natal clinics | 12 |
| Total attendance at clinics | 187 |
| New cases | 43 |

COMMUNITY HEALTH ASSOCIATION:

| | |
|---|---|
| Home visits by nurses in district | 8,531 |

INFANTILE CLINIC OF CHILDREN'S HOSPITAL:

| | |
|---|---|
| Number of clinics | 7 |
| Total attendance | 74 |
| New cases | 5 |

STATE DEPARTMENT OF MENTAL DISEASES:

| | |
|---|---|
| Number of habit-forming clinics | 9 |
| Total attendance | 47 |
| New cases | 10 |
| Home visits | 113 |

## FOOD INSPECTION DIVISION.

### MARKET, STORE AND RESTAURANT SERVICE.

| | |
|---|---|
| Reinspections | 320 |
| Stores inspected | 5,989 |
| Sanitary defects remedied | 129 |
| Complaints at office | 39 |
| Referred to Sanitary Division | 7 |
| Notices to abate nuisances | 162 |
| Applications for pedlers' licenses approved | 20 |
| Vehicles inspected and approved | 63 |
| Laboratory Examinations: | |
| Bacteriological | 2 |
| Chemical | 14 |

#### CONDEMNATIONS.

| | | | |
|---|---|---|---|
| Beef | 753 pounds | Turkeys | 690 pounds |
| Chicken | 93 pounds | Veal | 235 pounds |
| Coons | 5 pounds | Figs | 79 pounds |
| Fowl | 9 pounds | Lemons | 9 dozen |
| Frankfurts | 10 pounds | Pears | 4 baskets |
| Geese | 84 pounds | Prunes | 502 pounds |
| Ham | 64 pounds | Raisins | 6,711 pounds |
| Hogs | 583 pounds | Tomatoes | 3,600 cans |
| Pork | 74 pounds | Candy | 60 pounds |
| Poultry | 555 pounds | Catsup | 300 bottles |
| Sheep casings | 4 tierce | Walnuts | 1,060 pounds |
| Smoked shoulder | 5 pounds | Italian candy | 592¼ pounds |
| Tongue | 19 pounds | | |

### LIVE STOCK INSPECTION (Brighton Abattoir).

| | | | |
|---|---|---|---|
| Cattle inspected | 4,173 | Parts condemned (lbs.) | 14,739 |
| Calves inspected | 3,115 | Animals condemned | 53 |
| Swine inspected | 5,251 | | |

### DAIRY DIVISION.

| | | | |
|---|---|---|---|
| Total inspection | 1,465 | Total cattle inspected | 6,469 |
| Dairies inspected | 550 | Inspection of milk plants and licensed dealers | 275 |
| Scoring above 50 * | 499 | Bacteriological examinations | 3 |
| Scoring below | 51 | Country creamery inspections | 21 |
| With milk rooms | 468 | Sediment tests | 594 |
| Without milk rooms | 82 | | |
| Inactive | 23 | | |

* Passable mark.

## BUREAU OF MILK INSPECTION.

### SAMPLES EXAMINED.

| | |
|---|---|
| CHEMICAL: | |
| Milk from wagons | 239 |
| Milk from stores | 1,095 |
| Milk brought by citizens | 4 |
| Candy | 8 |
| Water | 1 |
| Shellac | 2 |
| Roach powder | 15 |
| Miscellaneous | 74 |
| Sausage | 1 |
| BACTERIOLOGICAL: | |
| Milk | 536 |
| Ice cream | 78 |
| Court cases | 7 |
| Fines | $105 |

## SANITARY INSPECTION.

| | | | |
|---|---|---|---|
| Original inspections | 2,595 | Complaints investigated | 532 |
| Reinspections | 6,765 | Court cases authorized | 2 |
| Legal notices served | 125 | Routine Inspections | 3,054 |

## BACTERIOLOGICAL LABORATORY.

| | |
|---|---|
| Diphtheria | 771 |
| Tuberculosis | 385 |
| Typhoid | 41 |
| Gonorrhea | 731 |
| Gonorrheal ophthalmia | 58 |
| Syphilis | 1,310 |
| Other examinations * | 80 |
| Bacteriological examinations of milk | 536 |
| Bacteriological examinations of ice cream | 78 |

* Malaria, 3; feces for typhoid, 23; urine for typhoid, 16; genito-urinary tuberculosis, 14; paratyphoids, 4; smears for virulence, 2; dark field examinations, 3; smears for Vincent's angina, 10; chicken for putrefaction, 1; feces for parasites, 1; water for pollution, 2; urine for tuberculosis, 1.

## MONTHLY REPORT OF VENEREAL DISEASE ACTIVITIES, DECEMBER, 1927.

### SYPHILIS.

| | |
|---|---|
| Current cases under investigation December 1, 1927 | 18 |
| New cases reported during December | 22 |
| Total | 40 |

DISPOSITION OF CASES.

| | |
|---|---|
| Under treatment | 5 |
| Unable to locate | 14 |
| False address | 2 |
| Under investigation | 19 |
| Total | 40 |
| New cases reported by number | 70 |

## GONORRHEA.

| | |
|---|---|
| Current cases under investigation December 1, 1927 | 40 |
| New cases reported during December | 38 |
| Total | 78 |

DISPOSITION OF CASES.

| | |
|---|---|
| Under treatment | 9 |
| Unable to locate | 21 |
| Moved out of town | 3 |
| False address | 3 |
| Under investigation | 42 |
| Total | 40 |
| New cases reported by number | 198 |

## SUMMARY.

| | |
|---|---|
| Current cases under investigation December 1, 1927 | 58 |
| New cases reported during December | 60 |
| Total | 118 |

DISPOSITION OF CASES.

| | |
|---|---|
| Moved out of town | 3 |
| Under treatment | 14 |
| Unable to locate | 35 |
| False address | 5 |
| Under investigation | 61 |
| Total | 118 |
| Visits by venereal investigator | 300 |

## COMPLAINTS AND SOURCES OF INFECTION.

| | |
|---|---|
| Free from disease | 1 |
| Under treatment | 2 |
| Unable to locate | 1 |
| Total | 4 |
| Venereal deaths investigated | 1 |

# DIVISION OF TUBERCULOSIS.

## DECEMBER, 1927.

| Districts. | Total Number Cases at Clinics. | | | Total Number New Cases. | | |
|---|---|---|---|---|---|---|
| | Adult. | Children. | Total. | Adult. | Children. | Total. |
| South End | 172 | 138 | 310 | 30 | 18 | 48 |
| East Boston | 76 | 131 | 207 | 9 | 18 | 27 |
| North End | 58 | 70 | 128 | 9 | 10 | 19 |
| West End | 45 | 47 | 92 | 15 | 14 | 29 |
| Codman square | 73 | 53 | 126 | 18 | 21 | 39 |
| South Boston | 39 | 21 | 60 | 8 | 6 | 14 |
| Charlestown | 29 | 26 | 55 | 1 | 4 | 5 |
| Brighton | 16 | 10 | 26 | 8 | 3 | 11 |
| Hyde Park | 33 | 12 | 45 | 9 | 4 | 13 |
| Totals | 541 | 508 | 1,049 | 107 | 98 | 205 |

| Districts. | Von Pirquet. | Wassermann. | Lamp. | X-Ray. (Recommended.) |
|---|---|---|---|---|
| South End | 33 | 15 | 108 | 174 |
| East Boston | 25 | 7 | 153 | 41 |
| North End | 2 | 1 | 109 | 61 |
| West End | 7 | 3 | — | — |
| South Boston | 1 | 8 | 111 | 20 |
| Hyde Park | — | 1 | — | — |
| Brighton | 2 | 8 | — | — |
| Codman square | 22 | 8 | — | — |
| Charlestown | 10 | — | — | — |
| Totals | 102 | 51 | 481 | 296 |

In the month of December, there were ninety-three clinic sessions held in the nine dispensaries.

| | | |
|---|---|---|
| At the South End Health Unit | 12 | 3 |
| At the East Boston Health Unit | 9 | 4 |
| At the North End Health Unit | 8 | 4 |
| At the West End Health Unit | 9 | 3 |
| At the Codman Square Health Unit | 5 | 4 |
| At the South Boston Health Unit | 3 | 4 |
| At the Charlestown Health Unit | 5 | 4 |
| At the Brighton Health Unit | 4 | 3 |
| At the Hyde Park Health Unit | 4 | 5 |
| Total number of cases | 59 | 34 |

## TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING DECEMBER, 1927.

| Classification. | Number. | Percentage. |
|---|---|---|
| After death | 5 | 9.61 |
| Seven days or less | 4 | 7.69 |
| Eight to fourteen days, inclusive | 3 | 5.77 |
| Fifteen to twenty-one days, inclusive | 1 | 1.92 |
| Twenty-two to thirty-one days, inclusive | 3 | 5.77 |
| Within First Month. (Total) | 16 | 30.76 |
| Within second month | 6 | 11.54 |
| Within third month | 1 | 1.92 |
| Within fourth month | 2 | 3.85 |
| Within fifth month | 3 | 5.77 |
| Within sixth month | 1 | 1.92 |
| Within seventh month | 3 | 3.85 |
| Within eighth month | — | — |
| Within ninth month | 1 | 1.92 |
| Within tenth month | — | — |
| Within eleventh month | — | — |
| Within twelfth month | — | — |
| Within First Year Preceding Death. (Total) | 33 | 63.45 |
| Within second year | 5 | 9.61 |
| Within third year | 1 | 1.92 |
| More than three years | 13 | 25.00 |
| Grand totals | 52 | 99.98 |

# CHILD HYGIENE DIVISION.

## REPORT OF ACTIVITIES OF MEDICAL INSPECTORS DECEMBER, 1927.

| | |
|---|---|
| Inspections | 553 |
| Physical examinations | 90 |
| Schick tests | 124 |
| Toxin-antitoxin administrations | 68 |
| Vaccinations | 76 |
| Vaccination certificates issued | 92 |
| Day nursery visits | 33 |
| Parochial school visits | 1 |
| Special visits | 42 |

# CHILD HYGIENE DIVISION.

## MONTHLY REPORT OF CHILD HEALTH CONFERENCES DECEMBER, 1927.

| Station. | Number of Babies. | Number of Pre-school. | Total Attendance. | Number of New Babies. | Number of New Preschool. | Total New Cases. | Number of Conferences. | Average Attendance. |
|---|---|---|---|---|---|---|---|---|
| Old Town Hall, Brighton | 209 | 8 | 217 | 21 | 6 | 27 | 4 | 54 |
| 31 Lincoln street, Brighton | 65 | 20 | 85 | 9 | 1 | 10 | 5 | 17 |
| Charlestown Municipal Building | 217 | 20 | 237 | 24 | 4 | 28 | 7 | 35 |
| Codman square, Library | 320 | 42 | 362 | 47 | 3 | 50 | 7 | 52 |
| Columbia Road Municipal Building | 396 | 6 | 402 | 32 | 4 | 36 | 7 | 57 |
| 1 Arcadia street, Dorchester | 248 | 8 | 256 | 25 | 1 | 26 | 9 | 28 |
| East Boston Health Unit | 239 | 32 | 271 | 41 | 2 | 43 | 8 | 34 |
| Hyde Park Municipal Building | 84 | 6 | 90 | 8 | — | 8 | 3 | 30 |
| Curtis Hall, Jamaica Plain | 172 | 13 | 185 | 19 | 4 | 23 | 4 | 46 |
| 41 North Margin street | 155 | 46 | 201 | 17 | 2 | 19 | 9 | 22 |
| Roslindale Municipal Building | 134 | 17 | 151 | 13 | — | 13 | 3 | 50 |
| Beth Israel Hospital | 169 | 57 | 226 | 14 | 2 | 16 | 5 | 45 |
| Children's Hospital | 70 | 8 | 78 | 7 | — | 7 | 4 | 50 |
| 1049 Columbus avenue | 243 | 21 | 264 | 43 | 2 | 45 | 9 | 29 |
| Vine Street Municipal Building | 189 | 11 | 200 | 22 | — | 22 | 8 | 25 |
| 133 Dorchester street, South Boston | 233 | 19 | 252 | 32 | 6 | 38 | 9 | 28 |
| 57 East Concord street | 128 | 9 | 137 | 14 | 1 | 15 | 5 | 27 |
| Shawmut Avenue Municipal Building, | 119 | 35 | 154 | 13 | 4 | 17 | 4 | 39 |
| 122 Tyler street | 81 | 6 | 87 | 5 | — | 5 | 4 | 22 |
| 17 Blossom street | 299 | 26 | 325 | 21 | 1 | 2 2 | 8 | 41 |
| Totals | 3,770 | 410 | 4,180 | 427 | 43 | 470 | 122 | 32 |

## REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES FOR DECEMBER, 1927.

| Station. | Toxin-Antitoxin. | | | | Number of Vaccinations. |
|---|---|---|---|---|---|
| | First. | Second. | Third. | Total. | |
| Old Town Hall, Brighton | — | 2 | 1 | 3 | 1 |
| 31 Lincoln street, Brighton | 4 | 3 | 3 | 10 | — |
| Charlestown Municipal Building | — | — | 1 | 1 | 3 |
| Codman Square Library | 3 | 4 | 8 | 15 | 4 |
| Columbia Road Municipal Building | 6 | 7 | 5 | 18 | 4 |
| 1 Arcadia street, Dorchester | — | — | 6 | 6 | — |
| East Boston Health Unit | — | — | — | — | 2 |
| Hyde Park Municipal Building | — | — | — | — | 4 |
| Curtis Hall, Jamaica Plain | 6 | 11 | 11 | 28 | — |
| 41 North Margin street | — | 2 | 5 | 7 | — |
| Roslindale Municipal Building | — | — | — | — | 4 |
| Beth Israel Hospital | 9 | 16 | 19 | 44 | 9 |
| Children's Hospital | 1 | 1 | — | 2 | 1 |
| 1049 Columbus avenue | 2 | 2 | 2 | 6 | 10 |
| Vine Street Municipal Building | 3 | 1 | 2 | 6 | 20 |
| 133 Dorchester street, South Boston | — | — | 2 | 2 | 4 |
| 57 East Concord street | — | — | — | — | 5 |
| Shawmut Avenue Municipal Building | 4 | 6 | 8 | 18 | 1 |
| 122 Tyler street | — | — | 1 | 1 | 2 |
| 17 Blossom street | — | — | — | — | — |
| Totals | 38 | 55 | 74 | 167 | 74 |

# VITAL STATISTICS, DECEMBER, 1927.

## BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING DECEMBER, 1927, WITH COMPARATIVE FIGURES FOR DECEMBER, 1926.

| | BIRTHS AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1927. | 1926. | Increase or Decrease. | 1927. | 1926. | Increase or Decrease. |
| **All Causes:** | | | | | | |
| Total deaths | 936 | 1,018 | —82 | 14.16 | 15.52 | —1.36 |
| Nonresidents deducted | 786 | 847 | —61 | 11.89 | 12.91 | —1.02 |
| **By Age:** | | | | | | |
| Under one year | 102 | 126 | —24 | 1.54 | 1.92 | —.38 |
| One year to four years, inclusive | 51 | 42 | +9 | .77 | .64 | +.13 |
| Sixty years and over | 397 | 405 | —8 | 6.01 | 6.17 | —.16 |
| **By Special Causes:** | | | | | | |
| Degenerative Diseases, So Called: | | | | | | |
| Apoplexy | 55 | 53 | +2 | .83 | .81 | +.02 |
| Arteriosclerosis | 18 | 35 | —17 | .27 | .53 | —.26 |
| Heart disease | 195 | 206 | —11 | 2.95 | 3.14 | —.19 |
| Nephritis, chronic | 75 | 66 | +9 | 1.13 | 1.01 | +.12 |
| Infant and Maternal Mortality: | | | | | | |
| *a.* Total registered live births | 1,262 | 1,105 | +157 | 19.10 | 16.84 | +2.26 |
| *b.* Registered stillbirths | 28 | 37 | —9 | .42 | .56 | —.14 |
| Stillbirths per 1,000 births and stillbirths | — | — | — | 21.70 | 32.40 | —10.70 |
| *c.* Deaths of mothers from causes incident to childbirth | 7 | 9 | —2 | .10 | .14 | —.04 |
| Deaths of mothers per 1,000 births and stillbirths | — | — | — | 5.43 | 7.88 | —2.45 |
| Deaths of children in first year of life | 102 | 126 | —24 | 1.54 | 1.92 | —.38 |
| Deaths in first year per 1,000 live births, | — | — | — | 80.82 | 114.02 | —33.20 |
| Violence: | | | | | | |
| Accidents | 53 | 62 | —9 | .80 | .94 | —.14 |
| Homicides | 2 | 1 | +1 | .03 | .015 | +.015 |
| Suicides | 6 | 8 | —2 | .09 | .12 | —.03 |
| Miscellaneous: | | | | | | |
| Alcoholism, acute or chronic | 17 | 14 | +3 | .26 | .21 | +.05 |
| Broncho-pneumonia | 34 | 62 | —28 | .51 | .94 | —.43 |
| Cancer | 95 | 109 | —14 | 1.44 | 1.66 | —.22 |
| Cirrhosis of the liver | 4 | 10 | —6 | .06 | .15 | —.09 |
| Diabetes mellitus | 15 | 13 | +2 | .23 | .20 | +.03 |
| Diarrheal diseases, children under two years of age | 14 | 10 | +4 | .21 | .15 | +.06 |

## BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON, DECEMBER, 1927.

| | CASES AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | ACTUAL NUMBER. | | | RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED. | | |
| | 1927. | 1926. | Increase or Decrease. | 1927. | 1926. | Increase or Decrease. |
| COMMUNICABLE DISEASES: | | | | | | |
| Anterior poliomyelitis.....Cases.. | 17 | 2 | +15 | .26 | .03 | +.23 |
| Deaths. | 4 | — | +4 | .06 | — | +.06 |
| Cerebrospinal meningitis.....Cases.. | 2 | 3 | —1 | .03 | .04 | —.01 |
| Deaths. | 3 | 1 | +2 | .04 | .015 | +.025 |
| Diphtheria.....Cases.. | 105 | 162 | —57 | 1.59 | 2.47 | —.88 |
| Deaths. | 5 | 8 | —3 | .07 | .12 | —.05 |
| Influenza.....Cases.. | 12 | 14 | —2 | .18 | .21 | .03 |
| Deaths. | 6 | 6 | — | .09 | .09 | — |
| Measles.....Cases.. | 961 | 64 | +897 | 14.54 | .97 | +13.57 |
| Deaths. | 12 | 2 | +10 | .18 | .03 | +.15 |
| Pneumonia (lobar).....Cases.. | 152 | 138 | +14 | 2.30 | 2.10 | +.20 |
| Deaths. | 55 | 52 | +3 | .83 | .79 | +.04 |
| Scarlet fever.....Cases.. | 307 | 357 | —50 | 4.64 | 5.44 | —.80 |
| Deaths. | 6 | 3 | +3 | .09 | .04 | +.05 |
| Tuberculosis (pulmonary).....Cases.. | 112 | 116 | —4 | 1.69 | 1.77 | —.08 |
| Deaths. | 52 | 53 | —1 | .79 | .81 | —.02 |
| Tuberculosis (other forms).....Cases.. | 19 | 29 | —10 | .29 | .44 | —.15 |
| Deaths. | 4 | 9 | —5 | .06 | .14 | —.08 |
| Typhoid fever.....Cases.. | 5 | 36 | —31 | .07 | .55 | —.48 |
| Deaths. | — | 1 | —1 | — | .015 | —.015 |
| Whooping cough.....Cases.. | 183 | 103 | +80 | 2.77 | 1.57 | +1.20 |
| Deaths. | 6 | 2 | +4 | .09 | .03 | +.06 |

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births, per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1927 (mid-year), based upon the federal census of 1920, has been used.

**DO NOT DESTROY.**

When you have no further use for this Circular give it to someone else.

## TO PHYSICIANS.

Have you attended any births during the calendar year 1927, or any previous year, wherein you failed to make a return of the births to the City Registrar?

The registration of births is of vital importance for its value to both the child and its parents, and for the record of your city in its standing among the cities of the country and the world with respect to its infant mortality rate.

There are many important instances where a birth certificate is found to be of value, especially in later life, and when it has not been reported much embarrassment is caused not only to the individual concerned but to the physician who was in attendance at the birth. We know that a birth certificate is necessary many times during life, and when we need it there is nothing that can replace it; it becomes invaluable. A birth certificate is requested in many cases, some of which are as follows:

Evidence of age on entering school; inheritance of property; proof of age, relationship, and legitimacy; proving of age of consent; marriage licenses (in some instances); passports; employment or working certificates; entrance into military, naval, and civil service, and often in private employment; in voting; jury service; administration or settlement of estates; relations of guardians and wards.

### Full and Complete Birth Registration Insures a Lower Infant Mortality.

Doctor, look over your records of confinements, and report to the City Registrar any births you have thus far failed to report this year. You will then be not only complying with the law, but fulfilling an obligation that is due the child, its parents, and the Commonwealth. If you have any doubt as to any such birth, mail a duplicate to the City Registrar, and so mark it.

FRANCIS X. MAHONEY, M. D., Health Commissioner.
EDWARD M. McGLENEN, City Registrar.

### LAW ON BIRTH REPORTING.

Chapter 46, General Laws, section 3: Every physician, or hospital medical officer registered under section 9 of chapter 112, shall keep a record of the birth of every child in cases of which he was in charge, showing date and place of birth, the name, if any, of the child, its sex, color, the name, age, birthplace, occupation and residence (including the street number, if any, and the ward number, if in a city) of each parent, the maiden name of the mother and the name of the physician or officer, if any, personally attending the birth. If the child is illegitimate, the name of and other facts relating to the father shall not be set forth except upon written request of both the father and the mother. Said physician or officer shall, within fifteen days after such birth, mail or deliver to the clerk or registrar of the town where such birth occurred, a report stating the facts herein above required to be shown on said record and also the said written request, if any; provided that if said report is not made within forty-eight hours after such birth, said physician or officer shall, within forty-eight hours, mail or deliver to said clerk or registrar a notice stating the date and place of birth, the street number, if any, the ward number, if in a city, and the family name, upon presentation to him of a certificate of the town clerk stating that any such birth has been duly reported, the town treasurer shall pay to such physician or officer a fee of 25 cents for each birth so reported.

Any physician or any such officer violating any provision of this section shall forfeit not more than twenty-five dollars.

1103 1559

MONTHLY BULLETIN

# HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the EDITOR MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

VOL. 17. BOSTON, FEBRUARY, 1928. NO. 2

## POSSIBILITIES OF DEATH RATE REDUCTION.

The cheerful optimist in health conservation is always ready with an attractive prophecy which unfortunately is almost invariably qualified by an "if and perhaps" as a loophole in the event that matters turn out otherwise than as predicted. He looks at a curve of death rates and, observing a persistant downward tendency for a period of years, rashly concludes that things will continue in the future as they have in the past. But he ignores a fundamental law of industrial mechanics, as well as the law of human life which sets a limit to human existence. In drilling operations for oil or water, the first one hundred feet are easy, the first one thousand feet are more difficult and in the next thousand or two the cost and the obstacles become prohibitive. In other words, the resistance of the strata increases disproportionately to the depth attained. It is just so with the death rate. A rate of 50 per 1,000 can be reduced to 25 with less than half the effort required to reduce a rate of 25 to 15. To further reduce the death rate from 15 to 10 becomes a much more difficult, if not an impossible, task. The explanation, of course, is simple enough. A really excessive death rate is due to causes readily understood and ascertainable and subject to public control. It is thus with smallpox, typhoid fever, yellow fever, cholera, malaria and many of the acute infectious diseases of infancy or early life, including

tuberculosis. But a general death rate of 10 to 12 per 1,000 represents quite a different medical and sanitary problem. When the death rate has reached this point, the predominating diseases are those of adult life due chiefly to organic impairments such as heart diseases, nervous diseases, cancer, diabetes, etc. To reduce the death rate from these diseases implies the hearty individual cooperation of the general public with the efforts of the health officer, concerned chiefly with matters of public health education and all that concerns the vast problem of personal hygiene.

The reckless optimist in health propaganda with his "if and perhaps" easily solves the problem — on paper. His prophecy is often remembered, but its nonperformance is soon forgotten or blamed on someone who has done his utmost and who has done his best. Many years ago, when vaccination became general, it was assumed that smallpox had been eradicated, but lingering cases still occur, and the outbreak of an epidemic is an ever-present danger to the community. When the tuberculosis movement had its start about twenty years ago, the reckless optimist was ready with prognostications that there would be no tuberculosis in 1921. The prophecy is far from having been fulfilled regardless of extraordinary achievements, but the harm was done and much public discouragement was the result. A few years ago a tuberculosis demonstration was organized in the city of Framingham. It was asserted with confidence that if a sufficient amount of money was spent, tuberculosis would be eradicated from the community. The money was spent but the tuberculosis rate of Framingham is much the same.

Not long ago the International Health Board of the Rockefeller Foundation was alleged to have asserted that yellow fever had been eradicated from the Western Hemisphere. Nevertheless, sporadic cases occur now and then, and the potential risk remains a serious one. Much had been expected from the propaganda for the health education of the public in matters bearing upon the cancer death rate. Regardless of a tremendous amount of effort the death rate not only has failed to decline but continues to rise.

Two years ago a cheerful health optimist declared before a scientific gathering that there need be no diphtheria in 1930 in New York State "if and perhaps." The day of fulfillment of a hope to be desired is only two years away. But in 1925 there were over 13,000 cases of diphtheria in New York State, while there were only about 8,000 deaths from the disease throughout the rest of the United States against 9,000 in 1924. Even if a reduction could be achieved of a thousand deaths a year, it would take about ten years to bring about the result. But nothing could be more fatuous than to induge in such absurd speculations. Disease cannot be

controlled by the mere will or desire of the people or through the expenditure of even vast sums of money. All disease is inherent in the human organism and is closely related in its frequency with conditions of life which cannot be easily altered. In other words, progress in its reduction can only be brought about step by step, although the progress can be accelerated considerably by concentration of effort and the proper expenditure of money.

In diphtheria the causative factor is known with certainty and the methods of prevention and control are now thoroughly understood. The disease is caused by a minute germ and spread from person to person, chiefly by contact. The disease is prevented by the administration of toxin-antitoxin in the case of the healthy, and deaths from the disease are prevented by the earliest possible administration of antitoxin in the case of those suffering from the disease or giving indication of a possible infection. The spread of the disease is checked by quarantine and the isolation of infected persons, and prevention is materially aided by the prompt and earliest notification of infected persons.

It is upon these principles generally recognized and enforced by public authorities on the one hand and the voluntary cooperation of physicians and parents or patients on the other that the hope for a gradual eradication of diphtheria rests at the present time. It is more or less rigorous application of these principles that account for the remarkable decline in the mortality from diphtheria during recent years and nowhere more so than in the City of Boston, which in the past has often suffered a diphtheria death rate much above the general average for the country at large.

Ten years ago the case rate of diphtheria in Boston per 100,000 of population was 549. In 1926 it was only 125, or, in other words, the disease was only about one fourth as common last year as it was ten years ago. The death rate in 1917 was 37 per 100,000. In 1926 it was only 7, or in other words, the death rate had been reduced to about one fifth of its prevalence ten years ago. In actual figures there were 4,098 cases of diphtheria in 1917 against 982 in 1926, and while there were 278 deaths in 1917 there were only 54 deaths last year.

Boston and Cleveland have about the same population. While there were 982 cases of diphtheria in Boston last year, there were 2,281 in Cleveland. While in Boston there were 54 deaths from diphtheria in 1926, in Cleveland there were 192 deaths. There is, therefore, much cause for satisfaction at the present situation in Boston, although the first nine months of 1927 show a tendency towards a higher rate for the year. To the end of September, there were 1,092 cases, or about 100 more than during the whole

of the year 1926, but the number of deaths from diphtheria for the first nine months of 1927 was only 47, so that conditions cannot be looked upon as particularly abnormal. Elsewhere in the country the disease has been of a particularly virulent type in 1927 and especially has this been the case in Chicago. In that city the case rate of diphtheria has increased from 83 per 100,000 in 1926 to 127 during the first seven months of 1927, while the death rate has increased from 7.4 to 12.8. The case fatality rate during 1926 was 8.8 per cent, but during the first seven months of 1927 it was 10.1 per cent. In Boston, during the first nine months of 1927, out of 1,092 cases 47 died, which is equivalent to about 4 per cent. There is at present no explanation for the varying degree of virulence in diphtheria in different years or in different localities. What concerns the public health administration is the rigorous enforcement of quarantine and isolation of infected persons, as well as the prevention of contacts with the noninfected. Furthermore, the health department naturally desires the largest amount of voluntary cooperation on the part of the public in taking advantage of known methods of immunization and prevention. Public apprehensions as regards the danger of antitoxin treatment are not justified by the facts of a world-wide experience.

The Schick test is a very simple procedure and rarely painful. The administration of toxin-antitoxin to be effective requires the earliest possible action. Every hour and day of delay increases the fatality rate. There is no excuse for delay. In fact, the nonadministration of antitoxin in diphtheria borders on being a criminal procedure. In the city of Auburn, New York, where the Schick test and antitoxin treatment have been carried out with unusual thoroughness, there has not been a death from the disease in three years. At the outset there was much opposition, but that was successfully overcome. Children are now brought to the clinics by their parents without much urging. In Boston similar efforts have been reasonably successful, but much remains to be done to achieve the complete immunization of all the children and young persons in Boston against this ever-present menace. While the prevailing type of diphtheria in Boston is less virulent than in many other parts of the country, it may at any time assume a more serious character. The Chicago experience should serve as a warning.

Summarizing the diphtheria situation throughout the country, the United States Public Health Service, in a report October 7, 1927, points out that, "(1) During the first seven months of 1927, 50 per cent more cases of and nearly 100 per cent more deaths from diphtheria have occurred in Chicago than were recorded for the corresponding months of 1926. (2) This increase in the death rate

from diphtheria has been due in part to a corresponding increase in morbidity, but the major factor has been a marked rise in the case fatality rate of the disease. (3) Clinically, the type of diphtheria in Chicago in 1927 was more malignant than that for several years past. The severe toxic and septic cases often fail to respond to treatment, even when antitoxin is given early and in usually adequate doses. (4) The greater prevalence of diphtheria in Chicago during 1927 has not been due to infection by milk, food, or epidemic foci, but represents a generalized increase in the endemic rate."

When the foregoing conclusions are applied to the problem in Boston, they are suggestive of extreme caution on the part of the public and prove the necessity of the earliest possible recognition of infected cases. They suggest the universal application of the Schick test and the great preventive value of toxin-antitoxin treatment. The lives that are sacrificed to diphtheria are largely a sacrifice to apathy, ignorance and prejudice. But regardless of every effort that can be made to reduce diphtheria, it is a delusion to believe that the disease will be eradicated within a definitely measurable period of time. The problem still involves many unknown factors, best illustrated in the recurrence of malignant diphtheria in Chicago and elsewhere. Fortunately, this unhappy experience has been spared to the parents of the City of Boston.

FREDERICK L. HOFFMAN, LL.D.

## TO PHYSICIANS.

**Look over your records for the past year and find out if there are any births that were attended by you that have not been registered with the City Registrar. This is a legal and moral obligation on your part, and such registration is of vital importance for its value to the child and its parents, and for the record of your city in its standing among the cities of the country and the world with respect to its infant mortality rate.**

**If you have any such unregistered births make the returns to the City Registrar, and if you have any about which you are in doubt send duplicates of them to him. Have all of your births registered.**

## VITAL STATISTICS FOR MEDICAL MEN.

*(The following notes are a continuation of the series by Dr. Frederick L. Hoffman, consulting statistician, that began in the November, 1927, issue of the "Bulletin." As explained at that time, these notes will be so written as to make them readable and attractive to medical men, public health workers and laymen, and in such a manner that they will show their direct relation and value to the prevention of disease and prolongation of life.)*

### Specific Death Rates by Race.

Race is possibly one of the most important factors influencing the death rate. Race in this country has chiefly reference to the white and the colored populations. Since the proportion of Indians and Orientals in this country is very small, they may be ignored for the present purpose. For 1924 the white death rate for registration states was 10.63 for all ages against a colored death rate of 19.96. The white death rate for males was 12.09, while the colored death rate was 19.06. The white female death rate was 10.57 while the colored female death rate was 17.37. Thus the negro death rate is approximately 50 per cent in excess of the white rate. This disparity in the rates has been observed for many years. While both the white and the colored death rates have measurably declined during the last fifty years, the differences in the rates have remained fairly constant. The negro death rate is, therefore, highly suggestive of a pronounced effect upon the white death rate when the two races are considered together. Selecting a typical state in which the negro population is about the same as that of the white population, attention may be called to Mississippi. In that state the white death rate in 1924 was 9.2, while the colored death rate was 14.2. For the state of South Carolina, the white death rate was 10.2, while the colored death rate was 15.6. For the state of Virginia, the white death rate was 10.3, while the colored rate was 16.4. It is a debatable question how far these differences are attributable to racial peculiarities, and inferior social and economic conditions. Broadly speaking, it would appear that the best judgment leans towards a decided effect of race on the death rate. The negro race has unquestionably a lesser degree of disease resistance and suffers a higher disease and death rate under practically identical conditions. The Census Office has calculated negro death rates separately from the white and gives the rate for 1924 for the registration states as 17.6 for the negroes. For 1923 the rate is given as 17 and for 1922 as 15.6. There has, therefore, during the last few years, been no measurable progress, which is made more evident by a detailed study of deaths by causes.

The death rate for Indians for 1924 is given as 25.9. For 1923 it was reported to have been 22.5 and for 1922 as 19.2. But

these rates require to be accepted with great caution for the Indian population in the nonregistration states is numerically of great importance, while of the same time there are reasons for believing that the Indian population has not been accurately enumerated. On account of the large amount of white intermixture, census returns of Indians must be accepted with great caution. Improvements in this direction are to be anticipated. Evidence from other sources justify the belief that the Indian death rate under the present medical administration of the Department of Indian Affairs is gradually being reduced. It represents, however, a very difficult problem.

General death rates for the Japanese population cannot be accepted as conclusive in view of the peculiar age and sex distribution of this element of our population. For 1924 the Census Office gives the death rate of Japanese as having been 10.7 per 1,000, having been as high as 17.2 in the state of Utah and as low as 8.1 in the state of Washington. The death rate of Japan is higher than the corresponding death rate of most European populations, having been in 1924, 21.2. Since all general death rates are profoundly effected by infant mortality, only specific death rates can be looked upon as conclusive.

### Adjusted and Refined Death Rates.

In explanation of these terms which of recent years have gained wide currency in mortality discussions, the following brief explanation may serve a useful purpose. The crude death rates represent the relative mortality irrespective of the age and sex composition of the population. Since this undergoes sometimes considerable changes during a long period of years, a correction is necessary for strictly scientific purposes. Such a correction, however, involves elaborate calculations and the use of census returns according to age and sex for different periods of time. It requires the adoption of standard age and sex distribution, which is optional with different countries. As observed in the mortality report for 1924, "Crude death rates by no means tell the whole story regarding the healthfulness of different localities. Race stock, occupations of the inhabitants, the sex and age distribution of the population, and the relative number of deaths of nonresidents are factors which must be considered before it can be determined that one city or state is more healthful than another."

When this factor of correction is applied some material alterations in the death rate occasionally result. The effect is particularly significant in the case of states or cities with an unusually large proportion of aged population, or with an abnormal sex distribu-

tion. Thus for the registration states of 1920, the crude death rate in 1924 was 11.9. The adjusted death rate was 11.35. For the white population by this method the crude death rate of 11.34 was reduced to an adjusted death rate of 10.63, but the negro death rate was increased from 18.24 to 20.07. The Indian death rate was reduced from 24.41 to 22.45. The Chinese death rate was reduced from 24.87 to 21.02, but the Japanese death rate was increased from 10.66 to 12.65.

The adjusted death rate is of particular importance in the case of old age diseases like cancer. For the registration states of 1920, the crude death rate from cancer of the breast was reduced from 10.07 per 100,000 to 9.7, while the rate for cancer of the buccal cavity was reduced from 3.8 to 3.1. The mortality from cancer of the breast in the state of Massachusetts was reduced from a crude death rate of 13.2 to 11.3, while that of Vermont was reduced from 14.5 to 10.4, and that of New Hampshire from 10.9 to 8.0. These reductions, of course, are quite significant with reference to a retrospective comparison with former years. But as said before, the calculation is quite burdensome and often difficult.

Refined death rates make allowance for the nonresident population. These are rates compiled upon the basis of a redistributed mortality according to the proper place of residence. They are of particular importance in connection with localities with institutions such as soldiers' homes, homes for the aged or hospitals and incurables. Their calculation is often a very burdensome statistical process and sometimes unattainable. For, of course, it is not merely the transfer of nonresident deaths from localities, but also the retransfer of deaths to the localities to which they are properly assignable. In cancer, for example, the crude death rate of the state of California which for 1924 was 130.8 was changed to an adjusted death rate of 102.7, and to a refined death rate of 100.4. That of Massachusetts was changed from a crude death rate of 123.1 to a refined death rate of 102.6. That of the City of Boston was changed from 153.4 to 115.8. Such changes, therefore, are obviously of greater practical value than adjusted death rates which have chiefly reference to the variations in age and sex distribution. It is said in this connection in the mortality report for 1924 that "The refined rates were found by first allocating deaths from cancer to areas of residence and computing rates, and then by applying to these rates the corrective factors necessary to change the crude rates from cancer to adjusted rates, based on the standard million population of England and Wales, 1901." The states with the greatest decreases of refined from crude rates were New Hampshire, Maine,

Vermont and California. The states having the greatest increase were Montana, Louisiana and Mississippi.

### Life Tables as a Measure of Mortality and Survival.

For certain purposes life tables are indispensable, especially in connection with the business of life insurance. They indicate with approximate accuracy the probability of attaining to a given life time or of surviving a given number of years. Life tables have been compiled for a large number of communities for different periods of time. Modern life tables indicate a measurable increase in longevity or the so-called expectation of life. There have been three official recent publications of life tables issued by the Bureau of Census, of which the last is for 1919–20. According to these tables the complete expectancy of life of the white population at birth is 55.33 years for the male population and 57.52 for the female population. It is only 46.28 for the negro male population in states with more than 5 per cent negro population, and 45.46 for negro females. Statements are frequently made as regards the increase in longevity during the last fifty years, but unfortunately such estimates are largely a matter of conjecture. No accurate life tables for a large area of the United States are available for earlier years. But such estimates as are based on death rates are more trustworthy, and justify the general assumption that the duration of life in this country has improved materially during recent years.

The facts may be considered in another way, and that is the number of surviving persons, out of 100,000 born alive, to a given number of years. Thus for 100,000 males born alive 65,751 may be expected to survive to the age of fifty-two, while 12,685 may be expected to survive to the age of eighty-two. For females the number of survivals is 68,253 at age fifty-two and 15,111 at age eighty-two. Calculations of this kind are of the greatest possible practical importance and the compilation of local life tables should be encouraged. One of the very first life tables ever computed in this country was published in 1789 by Doctor Wigglesworth, but it was based on only 4,893 deaths which would not be considered sufficient for modern purposes. It was limited to the New England States. The first Massachusetts life table was computed by Prof. E. B. Elliot for the year 1855. It was constructed for the New England Mutual Life Insurance Company and published in the "Proceedings of the American Association for the Advancement of Science" in 1857.

But regardless of their great intrinsic value, all life tables have inherent limitations. They merely indicate as a matter of proba-

bility what may be expected to occur on the basis of past experience. But since all mortality rates are subject to considerable fluctuations, the actual mortality under modern health administration is almost invariably more favorable than the mortality anticipated. Current specific death rates by divisional periods of life are therefore a much more satisfactory index for sanitary purposes. They are also more readily comprehensible on the part of the public.

## Weekly Death Rates.

During the War, at the suggestion of the chairman on Statistics of the Labor Division of the Council for National Defence, the Division of Vital Statistics of the Census Office initiated the collection of weekly mortality statistics for all the large cities of the United States. That practice has been continued to the present time and every week the Census Office issues a tabulation for some seventy cities representing possibly one fourth of the whole United States population, giving the current weekly death rates for all causes and for deaths under one year. This record now is one of extraordinary value being available for a large number of centers of population. Reviewing only for the present purpose the weekly death rates for the City of Boston since the beginning of 1920, it appears that during this period the highest death rate prevailed during the second week of February, 1920, when it reached 33.7 per 1,000 of population. A minimum death rate was reached during the second week of September, 1924, when the rate fell to 9.1 per 1,000. During the first week of November, 1927, the rate was 12.7 per 1,000, having during the present year been as high as 17.6 during the second week of March and as low as 9.9 during the fourth week of July. The weekly death rate is an indispensable current index of mortality useful for a large variety of purposes. It is checked by the collective experience of large industrial life insurance companies who report their current mortality to the Census Office in an identical manner. By merely taking the actual number of deaths from week to week in an accumulative manner, it can be shown at any given time how the present mortality compares with the corresponding mortality of last year or with a standard period of years useful as a basis of comparison. Thus, during the first forty-four weeks of 1927, the actual number of deaths experienced in the City of Boston was 9,396, which compares with 9,944 deaths during the same period of 1926. It is thus readily apparent that the mortality for 1927 will in all probability show a very measurable gain considering the increase in population over the corresponding mortality of last year.

## Nonresident Deaths.

Boston, like other large metropolitan areas, attracts a considerable number of patients from surrounding sections or even very remote sections, who seek in Boston more qualified medical and institutional treatment than would otherwise be obtainable. As a result the crude death rate of Boston is increased, and more so than would be the case if deaths of Boston residents elsewhere were properly accounted for. Thus in the year 1925, there were 11,571 deaths from all causes in the City of Boston, of which 2,041 were deaths of nonresidents. In the case of typhoid fever, there were 27 deaths in the City of Boston, of which 8 were the deaths of nonresidents. Most of these deaths occurred in hospitals, or, to be precise, out of 2,041 deaths of nonresidents in the City of Boston in 1925, as many as 1,800 died in hospitals. There is probably no other factor more complicating to local mortality situations than that of nonresident deaths, emphasizing the great importance of proper attention to the residential question on the death certificate and the accurate indication of the residence of the deceased wherever it may have been. It is to be hoped that some time in the future the Census Office will see its way clear to completely tabulate all deaths by causes according to the exact residence of the deceased. Certain standard rules have been adopted for this purpose which, of course, require to be complied with. The definition of a nonresident is as follows:

"Residents" indicates decedents whose "usual place of abode" was in the specified area, whether death occurred there or elsewhere in the registration area. As a rule the "usual place of abode" is the place where a person regularly sleeps.

Nonresidents, therefore, include:

Persons visiting a town.

Transient boarders or lodgers who have some other usual or permanent place of abode.

Students and children living or boarding in towns in order to attend some school or college, but not regarding the place as their home.

Servants or other persons working in town, but not sleeping there.

Aside from the foregoing there are a number of special cases such as civilian employees of the United States, who are treated as residents at the place where they regularly sleep. Also any person who was formerly a resident of the town but has since become an inmate of an out-of-town institution, is treated as a resident of the town in which the institution is located. Furthermore persons having an unknown residence are required to be treated exactly as those having

no permanent home or usual place of abode, and are considered residents of the place in which they die. Finally inmates of medical and surgical hospitals who are usually there only for temporary treatment are to be treated as residents of their home towns. Regardless of the efforts made to standardize the practice with reference to non-residents, a considerable degree of latitude is unavoidable. The facts are sometimes difficult to secure. It has been suggested that it would be better to adopt a definite length of residence as a condition, such as thirty days, which would probably be sufficient. The proportion of hospital patients or patients otherwise who require local treatment for a longer period is relatively small. The object, of course, is to correlate the factor of local residence to the disease as a possible matter of causation. Even so there are many cases in which this is quite out of the question, for a resident of a town may go on a short journey, contract typhoid fever and return to die at home. Or he may go to the tropics, contract malaria and return to die in a local hospital as a resident of the town. The matter is one which admits of no perfection. But strenuous efforts are being made to eliminate as far as possible confusion resulting from widely varying methods of dealing with the nonresident question.

A few illustrations will emphasize the importance of the foregoing observations. According to the report of the United States Census for 1924, cities which show a marked decline in rates when based on the exclusion of all nonresidents and the inclusion of residents who died elsewhere in the registration area were Rochester, Minn., with a notable decrease of 35 or from a crude rate of 50.7 to a refined rate of 15.7; Ann Arbor which shows a decline of 14 or from a crude rate of 29.7 to a refined rate of 15.7; likewise Long Branch, N. J., showing a decline of 13.8 or from a crude rate of 29 to a refined rate of 15.2

## The Law of Large Numbers.

Medical men, perhaps as much as any other professional group, frequently err in the use of statistical information inadequate to the purpose and sometimes grossly misleading. They are inclined to ignore the fundemental law of all statistics, that is, the law of large numbers. This means that statistics, which is the science of averages, depends essentially upon a sufficient number of individual observations to yield collective results which can be accepted with the assurance that they represent at least the approximate truth, if not the absolute truth, in a strictly mathematical sense. Almost any medical paper furnishes illustrations of the need of conformity to this precaution. A doctor relates his observations on the operative mortality in gastric ulcers and cites say fifteen cases to prove his

point. But ten times that number of cases would hardly be a fair basis, especially with a due regard to age, sex and operability or complications. When percentages are given, say of the operative mortality, it is implied that a law of frequency has been established beyond reasonable controversy. In the instance quoted, if five of the fifteen patients had died, it is not at all likely that fifty in one hundred patients would have died, if this number of observations had been under review. Most likely the mortality in the larger series would not have been 10 per cent if indeed much more than 5 per cent depending, of course, upon the type of patients treated. Or a hospital admitting a heterogeneous lot of cancer patients may report a mortality of 25 per cent while another accepting only strictly operable cases may report a mortality of only 5 per cent. The two series of cases are simply not comparable at all, unless it be by way of contract to point out the great need of emphasis upon early treatment. Hence the need of conformity to the law of large numbers in all medical statistical discussions and strict comparability of the units dealt with.

## Disease and Death.

Few things are more regrettable in the United States than the wasted records of medical and surgical experience in private and hosiptal practice. In some diseases the fatality rate is very high while in others it is quite negligible. As progress is being made in reducing the death rate, the importance of sickness statistics is increasing. As yet statistics of this kind are very fragmentary, except for the acute diseases of infancy and early life, or what are known as reportable diseases under the practice of Boards of Health everywhere. Within recent years the number of such reportable diseases has increased but these are nearly all diseases of childhood or youth, leaving the larger mortality of organic affections almost untouched. The only state requiring the reporting of all diseases is Mississippi, but the statistics are not published as they should be. The only other country making commendable and reasonable efforts in this direction is Russia, or at least the city of Moscow, for which a return of two and a quarter million diseases by age, cause and sex is available for the year 1925. No real substantial progress in the control of organic or degenerative diseases will be made until all of these diseases, whether medically or surgically dealt with are made reportable. What we require to know and on a large scale is precisely the rate of recovery, improvement or death in the diseases of adult life. At present this enormous medical experience collectively considered is lost to the profession and the public.

## Meteorological Statistics.

Little use is made by the medical profession of statistics of climate and weather in their relation to disease. The difficulties in this respect are very serious for elaborate statistical calculations are necessary to insure perfect co-ordination of the data utilized. An admirable volume on world weather records has recently been published by the Smithsonian Institution containing an enormous amount of information useful for a variety of purposes. It goes without saying that, however obscurely, weather conditions somehow influence both morbidity and mortality and probably more so in the case of the former than in the latter. But a scientific correlation of minute observations of temperature, rainfall, wind direction and humidity on morbidity and mortality is an extremely difficult matter. For if such agencies have an influence on sickness and death, it is the onset of the disease that requires correlation rather than the termination or both. As yet practically everything has to be learned with regard to weather conditions as possible causative factors in illness and death. Thus the so-called tropical climate which in years gone by was looked upon as a source of much illness is now realized to be of decidedly secondary importance, but the effect of tropical heat as a factor promoting insect and parasitical life is of the first importance. When these are under control, as is largely the case in Panama and on the plantations of the United Fruit Company, both sickness and deaths are substantially reduced near to the normal of nontropical countries. The reports of the United Fruit Company may be referred to as outstanding sources of trustworthy information on tropical conditions affecting life and health, likewise the annual reports of the Public Health Department of the Panama Canal Zone. In former years the Southern States were largely looked upon with apprehension and much was written on southern diseases and southern climate, which is now almost completely ignored. The white death rate of Southern States for all practical purposes conforms quite closely to death rates of the North and the West. The climate has remained unchanged but the sources of insect and parasitical infection have largely been brought under effective control. The heat of the tropics and southern lowlands, combined with sunshine, may be looked upon to a considerable degree as sources of health rather than of illness. The beneficial effects of sunlight exposure are at last being recognized by those who are developing the modern science of heliotherapy. Likewise the cold of the extreme North, as for example in Alaska and Northern Canada, is no longer looked upon as a source of much illness and death. Just as deaths from heat stroke are extremely rare in the tropics, so deaths from freezing are exceedingly rare in the extreme

northern latitudes. It is amazing to observe how wide a degree of temperature and humidity the human organism can stand without serious injury. Everywhere climate and weather conditions are modified by the control of environment and life is made at least endurable. In my own experience on the equator in South America, I never suffered a day's illness or hinderance in my work. Likewise in my investigations in Alaska and Labrador, as well as in extreme Northern Canada, I found conditions much better than expected. What is to be avoided is a coinciding high temperature and high humidity. This is probably the main source of weather condition decidedly inimical to health chiefly, of course, because it is a factor productive of new bacterial life.

*(To be continued.)*

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## HOW TO GIVE ARTIFICIAL RESPIRATION BY THE PRONE PRESSURE METHOD. *

1. Lay the patient on his belly, one arm extended directly overhead, the other arm bent at elbow and with the face turned outward and resting on hand or forearm so that the nose and mouth are free for breathing.

2. Kneel straddling the patient's thighs with your knees placed clear of the patient's hip bones.

Place the palms of the hands on the small of the back with fingers resting on the ribs, the little finger just touching the lowest rib, with the thumb and fingers in a natural position, and the tips of the fingers just out of sight.

3. With arms held straight, swing forward slowly so that the weight of your body is gradually brought to bear upon the patient. The shoulder should be directly over the heel of the hand at the end of the forward swing. Do not bend your elbows. This operation should take about two seconds.

4. Now immediately swing backward so as to remove the pressure completely.

5. After two seconds, swing forward again. Thus repeat deliberately twelve to fifteen times a minute the double movement of compression and release, a complete respiration in four or five seconds.

6. Continue artificial respiration without interruption until natural breathing is restored, if necessary, four hours or longer, or until a physician declares the patient is dead.

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* This method has been approved by the following organizations: American Telephone and Telegraph Company; American Red Cross; American Gas Association; Bethlehem Steel Company; National Electric Light Association; National Safety Council; Bureau of Medicine and Surgery, Navy Department; Office of the Surgeon General, War Department; United States Bureau of Mines; United States Bureau of Standards; and United States Public Health Service.

7. As soon as this artificial respiration has been started and while it is being continued, an assistant should loosen any tight clothing about the patient's neck, chest, or waist. *Keep the patient warm.* Do not give any liquids whatever by mouth until the patient is fully conscious.

8. To avoid strain on the heart when the patient revives, he should be kept lying down and not allowed to stand or sit up. If the doctor has not arrived by the time the patient has revived, he should be given some stimulant, such as one teaspoonful of aromatic spirits of ammonia in a small glass of water or a hot drink of coffee or tea, etc. The patient should be kept warm.

9. Resuscitation should be carried on at the nearest possible point to where the patient received his injuries. He should not be moved from this point until he is breathing normally of his own volition and then moved only in a lying position. Should it be necessary, due to extreme weather conditions, etc., to move the patient before he is breathing normally, resuscitation should be carried on during the time that he is being moved.

10. A brief return of natural respiration is not a certain indication for stopping the resuscitation. Not infrequently the patient, after a temporary recovery of respiration, stops breathing again. The patient must be watched and if natural breathing stops, artificial respiration should be resumed at once.

11. In carrying out resuscitation it may be necessary to change the operator. This change must be made without losing the rhythm of respiration. By this procedure no confusion results at the time of change of operator and a regular rhythm is kept up. (U. S. P. H. S.)

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## GET VACCINATED.

Are you protected against smallpox?

Have all your children been vaccinated?

Contrary to the tendency in other civilized countries smallpox has in recent years been steadily increasing in prevalence in this country.

While the type of the disease is generally mild, nevertheless three hundred and eighty deaths from smallpox were recorded in forty of our states last year.

Apart from the danger to life, smallpox is a most repulsive disease. This fact alone is sufficient to account for the difficulty in securing care for the sick, the public panic, and disturbance of retail business which occurs whenever smallpox appears in a community.

At the present time we can see such a situation in an adjoining state. It was brought about by a lone traveler who happened to come into the state suffering from an unrecognized case of smallpox. You do not know what day you may be exposed to smallpox in the same way.

A smallpox epidemic cannot occur in a well vaccinated community. By vaccination you not only protect yourself but your community.

Why put off any longer the vaccination of your children or of yourself, if you have not been vaccinated since childhood? Unknowingly, any day you or they may be exposed to smallpox.

Arrange for your family physician to vaccinate your family and yourself. If you cannot afford to pay for a physician the Health Department will vaccinate them by the latest method at any one of its health units and baby conference stations.

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## MEETING OF THE MASSACHUSETTS ASSOCIATION OF BOARDS OF HEALTH.

About one hundred members of the association attended the annual luncheon and meeting held at the Hotel Bellevue on January 26. The program consisted of a business meeting which was followed by the reading of papers concerning the responsibility for the care and treatment of tuberculosis by the Commonwealth and by the county, city and town, with the attendant difficulties of settlement, subsidy and responsibility. Dr. George H. Bigelow, Commissioner of Public Health, read a paper on "Present Resources for Handling Tuberculosis in Massachusetts," and Dr. George T. O'Donnell, director, Division of Tuberculosis, Boston Health Department, followed with a talk on "Local Care and Responsibility of Tuberculosis." Mr. William H. Hardy, formerly Secretary of the Department of Public Welfare of the City of Boston, related the history of the settlement laws in Boston and Massachusetts with their application at the present time. Dr. W. W. Peter, associate secretary of the American Public Health Association, spoke of the need of enthusiastic local state organizations concerned with public health and their co-operation with the American Public Health Association.

The annual election of officers took place and the officers chosen for 1928 were: President, John J. McGrath, Salem; 1st Vice-President, M. Victor Safford, Boston; 2d Vice-President, Dr. J. U. Paquin, Fall River; Treasurer, Dr. Francis George Curtis, Newton; Secretary, Stephen L. Maloney, Boston.

The meeting of the Executive Committee was held February 8 at the St. Botolph Club, Boston, and proposed legislation now pending before the Massachusetts Legislature was discussed.

## VACCINATION PROCEDURE.

The essential factors of a proper technique will be briefly considered in the order of their probable importance.

1. *Dressings.*— No local covering to be applied. Keep cool and dry. When these directions are observed and follow a proper type of small insertion, the lesions will usually retain their own natural covering — the epithelium itself — and will usually develop a dry scab without having become an open lesion at any time. Should an open lesion develop (as occasionally happens) through injury, an antiseptic dressing may be desirable for a few days. A few layers of gauze pinned to the inside of a loose-fitting sleeve is probably best. If attached to the arm the dressing should be large and the adhesive straps applied loosely and as far from the vaccination site as possible. Shields and dressings are often purchased and applied without the knowledge or consent of the physician, and warning should therefore always be given against the danger which such practice entails.

2. *Insertion.*— Second only in importance to the dressing is the character of the insertion, which should be *small*, never more than one-eighth inch in its greatest diameter, and is best made by some method which does not remove the epidermis. The multiple pressure method advocated by Surgeon J. P. Leake is admirable (6). This method consists in making twenty to thirty shallow tangential pricks of the cleansed but not irritated skin through a drop of virus in an area not over one-eighth inch in diameter. A new, sharp needle should be used. The point is not driven directly into the skin, but the side of the needle point is pressed against it, then lifted free, by a series of rapid, up-and-down motions. The virus is wiped off immediately.

3. *Method of Cleansing the Skin.*— Many solutions are satisfactory; we usually use acetone. The important thing is— *gentleness!* Too vigorous rubbing abrades the epidermis and may enable the virus to multiply outside the intended insertion.

4. *Site.*— The insertion of the deltoid is probably the best location for vaccination. Leg vaccination in persons who are up and about is inadvisable.

5. *Age.*— Primary vaccinations are best performed during the first year of life, since it is a well-established fact that infant vaccinations tend to run a milder course than do primary vaccinations performed later, and, furthermore, the child is protected against smallpox during a period in which it would otherwise be susceptible.

The infant, moreover, is confined to an environment which would seem to offer less opportunity for accidental contamination of his vaccination. The custom of performing the first vaccination at about the sixth year (entrance to school) would seem to be a less favorable practice, since at this age the child's sanitary sense is not developed and his outdoor play brings him in contact with contaminating organisms.— (*Dr. C. B. Armstrong, U. S. P. H. S.*)

## REST AND SLEEP FOR CHILDREN.

With growing girls and boys, especially at the onset of puberty, the question of adequate rest and sleep is of supreme importance; its need is often shown at home in ways which, if not understood, are apt to appear somewhat unpleasing, such as lolling about in easy chairs with their legs outstretched, and failing to jump up to open the door for their mother or her friends, lying late in bed — a mechanism of defense — and thus keep the breakfast hanging about long after the appointed time. . . . Insufficient sleep is tantamount to overwork and so favors mental instability and liability to the inroads of diseases.— *Sir Humphrey Rolleston.*

## AN ACT RELATIVE TO REPORTS OF TREATMENT OF CERTAIN WOUNDS CAUSED BY FIREARMS.

*Be it enacted, etc., as follows:*

Chapter one hundred and twelve of the General Laws is hereby amended by inserting after section twelve the following new section: Section 12A. Every physician attending or treating a case of bullet wound, gunshot wound, powder burn or any other injury arising from or caused by the discharge of a gun, pistol or other firearm, or, whenever any such case is treated in a hospital, sanitarium or other institution, the manager, superintendent or other person in charge thereof, shall report such case at once to the commissioner of public safety and to the police authorities of the town where such physician, hospital, sanitarium or institution is located. This section shall not apply to such wounds, burns or injuries received by any member of the armed forces of the United States or of the commonwealth while engaged in the actual performance of duty. Whoever violates any provision of this section shall be punished by a fine of not less than fifty nor more than one hundred dollars. Approved February 25, 1927.

2. Inasmuch as this act was intended to be an aid to police and others in the apprehension of criminals, it is most important that this *requirement* of the *law* be *complied with* and that this department be notified immediately. (Chapter 69, Acts of 1927.)

## SURVEY OF THE QUALITY OF BOSTON MARKET MILK.

The following is the result of a survey made of market milk sold in Boston by dealers and chain stores during January, 1928. In Massachusetts the statute law requires a minimum of 12 per cent solids and 3.35 per cent butter fat; for bacteria it is required that it contain not more than 100,000 per cubic centimeter.

| Name of Dealer. | Solids. | Fat. | Bacteria. Thousands in One Cubic Centimeter. |
|---|---|---|---|
| | Per Cent. | Per Cent. | |
| Allen, Fred H. | 12.42 | 3.85 | 60 |
| Antetomasso, Peter | 13.29 | 4.40 | 15 |
| Barron, C. W. | 13.76 | 4.60 | 10 |
| Bergmann, J. H. | 12.71 | 4.00 | 54 |
| Bolio, William | 12.99 | 4.23 | 46 |
| Brandley, F. J. & P. J. | 12.70 | 4.03 | 26 |
| Casey, James | 12.48 | 3.90 | 20 |
| Cashin, James | 12.55 | 3.87 | 20 |
| Cedar Hill | 13.95 | 5.00 | 13 |
| Chapin, George | 12.64 | 3.93 | 11 |
| Clapp, Frank L. | 13.00 | 4.10 | 10 |
| Clark, Levi | 12.17 | 3.64 | 12 |
| Coleman, David | 12.09 | 3.75 | 14 |
| Converse, M. M. | 12.66 | 3.63 | 11 |
| Corkery, J. J. | 12.33 | 3.85 | 284 |
| Cosgrove, Martin S. | 12.48 | 3.63 | 112 |
| Cummings, F. S. | 12.25 | 3.72 | 16 |
| Cunningham, Paul | 12.75 | 3.93 | 243 |
| Dean, Louis W. | 13.58 | 4.58 | 30 |
| Deerfoot Farm | 13.00 | 4.10 | 15 |
| Denehy, Timothy | 13.23 | 4.47 | 78 |
| Driscoll, William B., Company | 12.51 | 3.90 | 20 |
| Edgerly, Frank S. | 12.83 | 3.98 | 15 |
| Elm Spring Farm | 12.23 | 3.68 | 26 |
| Ferguson, M. D. | 12.85 | 3.90 | 26 |
| Garfield, Mason | 15.51 | 6.00 | 15 |
| Garvin, Charles E. | 15.11 | 5.75 | 14 |
| Giroux, J. E. & H. J. | 12.78 | 3.85 | 22 |
| Griffin, Joseph L. | 12.74 | 3.85 | 16 |
| Gushee, C. W. | 12.63 | 3.75 | 16 |
| Herlihy Brothers | 12.43 | 3.78 | 58 |
| Hickey, M. J. | 12.45 | 3.85 | 19 |
| Holden, John E. | 12.41 | 3.80 | 27 |
| Hood, H. P., & Son | 12.57 | 3.84 | 24 |

| Name of Dealer. | Solids. | Fat. | Bacteria. Thousands in One Cubic Centimeter. |
|---|---|---|---|
| | Per Cent. | Per Cent. | |
| Hutchinson, F. T. | 12.10 | 3.68 | 55 |
| Jones, William T., Company | 12.91 | 4.15 | 25 |
| Kendall Brothers | 12.22 | 3.75 | 19 |
| Kingston, Samuel | 12.72 | 3.90 | 30 |
| Knapp, George J. | 12.24 | 3.63 | 28 |
| Lang Brothers | 12.70 | 3.80 | 20 |
| Larson, Charles | 12.18 | 3.63 | 22 |
| LeBaron, Frederick | 15.18 | 3.64 | 21 |
| Lincoln Farms | 11.57 | 3.40 | 17 |
| Lyndonville Creamery | 13.14 | 4.15 | 28 |
| Manning, Peter | 12.57 | 3.73 | 82 |
| McAdams, J. F. | 12.74 | 3.95 | 15 |
| McKernon, James | 12.16 | 3.70 | 22 |
| Millwood Farms | 12.34 | 3.78 | 21 |
| Munchback, George | 12.66 | 3.93 | 22 |
| New England Creamery Products Company | 12.71 | 4.00 | 19 |
| Pope, Frank H. | 13.16 | 4.43 | 19 |
| Reddin, F. H. | 12.68 | 4.15 | 20 |
| Robinson, A. J. | 12.44 | 3.90 | 32 |
| Schuster, Adam | 12.90 | 3.98 | 35 |
| Seven Oaks | 12.54 | 3.80 | 21 |
| Shick, Jacob | 12.71 | 3.93 | 30 |
| Somerset Farms | 13.28 | 4.23 | 17 |
| Sterling Farms Milk Company | 12.65 | 3.73 | 24 |
| Stone, H. L. | 12.37 | 3.88 | 18 |
| Stuart, W. L. | 12.78 | 4.10 | 13 |
| Turner Centre System | 12.38 | 3.70 | 14 |
| United Farmers Co-operative Creamery Company | 12.85 | 4.03 | 15 |
| Upland Farms Creamery Company | 12.70 | 3.98 | 24 |
| Vartanian, K. | 12.20 | 3.75 | 24 |
| Vartanian, S. | 12.42 | 3.90 | 8 |
| Walker-Gordon | 12.88 | 4.15 | 8 |
| Weiller, E., & Sons | 12.71 | 4.02 | 46 |
| Westwood Farms | 12.64 | 3.83 | 14 |
| White Brothers | 12.64 | 3.90 | 15 |
| Whiting Milk Company | 12.31 | 3.82 | 20 |
| Whittemore, W. D. | 12.86 | 3.93 | 18 |
| Wiswall, George A. | 12.48 | 3.90 | 139 |
| Woodland, Charles L. | 12.04 | 3.53 | 38 |

## CHAIN STORE MILK.

| Name of Dealer. | Supplied by | Solids. Per Cent. | Fat. Per Cent. | Bacteria. Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| The Great Atlantic & Pacific Tea Company. | Hood & Sons | 12.36 | 3.83 | 18 |
| Brown, M., & Sons | Whiting Company | 12.44 | 3.83 | 214 |
| Cloverdale Company | Turner Centre System | 12.37 | 3.77 | 14 |
| Economy Grocery Stores | Whiting | 12.45 | 3.85 | 228 |
| First National Stores, Inc. | Bellows Falls Co-operative Creamery. | 12.72 | 4.02 | 16 |
| Morgan Brothers Company | Morgan Brothers | 12.50 | 3.87 | 26 |
| Winer, M. | Hyman Winer | 12.81 | 4.08 | 14 |

## SUMMARY OF THE WORK, JANUARY, 1928.

### BUREAU OF ADMINISTRATION.

| | | | |
|---|---|---|---|
| Prosecutions ordered | 4 | Personnel: | |
| Legal notices | 129 | Death of employee | 1 |
| Lying-in Hospital approved | 2 | Resignation | 1 |
| Contract awarded | 3 | Appointments, permanent | 2 |
| Miscellaneous hearing | 1 | Appointment, temporary | 1 |
| Order issued | 1 | Appointment, provisional | 1 |
| Forcible removal | 1 | Salaries increased | 2 |
| | | Promotion | 1 |
| | | Retirement | 1 |
| | | Trip authorized | 1 |

### LICENSES, PERMITS, ETC., ISSUED.

| | | | |
|---|---|---|---|
| Burial permits | 1,124 | Hen licenses | 4 |
| Denatured alcohol | 11 | Manicure-massage | 78 |
| Dump approved | 11 | Milk | 148 |
| Dump disapproved | 3 | Garbage transportation | 1 |
| Grease | 1 | Peddlers | 25 |
| Ice cream | 2 | Sausage manufacturing | 1 |

### MEDICAL DIVISION.

| | | | |
|---|---|---|---|
| Visits: | | Cases brought to Boston for treatment | 130 |
| By medical inspectors | 1,241 | Medical inspectors' activities: | |
| By veterinarian | 223 | Deaths investigated | 15 |
| By investigator | 266 | | |

### NURSING SERVICE.

| | | |
|---|---|---|
| Homes Visited | | 17,509 |
| Child Hygiene: | | |
| Visits to old cases | 7,662 | |
| Visits to new cases | 1,343 | |
| Total | | * 9,005 |

* Includes 85 wrong addresses; 925 not seen; 1,010 absent visits.

| | | |
|---|---|---|
| COMMUNICABLE DISEASES: | | |
| Visits to old cases | 5,834 | |
| Visits to new cases | 2,549 | |
| Total | | *8,383 |
| TUBERCULOSIS: | | |
| Visits to old cases | 3,381 | |
| Visits to new cases | 205 | |
| Total | | †3,586 |
| MISCELLANEOUS VISITS: | | |
| Infant death investigations | 80 | |
| Maternal death investigations | 1 | |
| Patients accompanied to hospital | 3 | |
| Visits to day nurseries | 22 | |
| Visits to parochial schools | 86 | |
| Posture clinics | 25 | |
| Other special visits | 7 | |
| Total | | 224 |
| Total of all visits | | 20,974 |
| Hours in stations by nurses | | 2,986¼ |
| Hours in baby conference | | 1,836 |
| Hours in tuberculosis clinics | | 715¼ |
| Hours in posture clinics | | 166¼ |
| Hours in parochial schools | | 69¾ |
| Hours in nurses' conferences | | 468 |
| Total number of hours | | ‡6,241½ |

## HEALTH UNITS.

| | |
|---|---|
| MISCELLANEOUS UNIT ACTIVITIES: | |
| Complaint of insanitary conditions | 19 |
| Number of persons given health and other information | 1,654 |
| City visitors | 74 |
| Out of city visitors | 7 |
| DENTAL SERVICE: | |
| Number of children's teeth cleaned | 306 |
| Number of children treated | 2,746 |
| Prophylaxis | 3,760 |
| EYE SERVICE: | |
| New cases | 28 |
| Number of refractions | 78 |
| Number of glasses prescribed | 10 |
| Number of examinations for diagnosis | 31 |

* Includes 67 wrong addresses; 161 not seen; 228 absent visits; 161 ophthalmia.

† Includes 31 wrong addresses; 325 not seen; 356 absent visits; 1,711 positive cases; 993 contact cases; 526 suspect cases; total 3,230.

‡ This includes child health conferences, vaccination and diphtheria immunizations at stations and tuberculosis clinics.

| | |
|---|---|
| CHILD HYGIENE DIVISION: | |
| Number of child health conferences | 34 |
| Total attendance at conferences | 1,417 |
| New babies at conferences | 195 |
| New preschool age children at conferences | 32 |
| Vaccinations performed | 67 |
| Vaccination certificates issued | 67 |
| Number of posture clinics | 24 |
| Total attendance at posture clinics | 644 |
| Toxin-antitoxin administrations | 21 |
| Examined for day nurseries | 209 |
| TUBERCULOSIS CLINICS: | |
| Number of clinics | 46 |
| Attendance at tuberculosis clinics | 707 |
| New cases | 108 |
| X-ray examinations | 198 |
| NURSING SERVICE: | |
| Homes visited by nurses | 5,042 |
| Total visits to babies and preschool children | 2,775 |
| Total communicable disease visits | 592 |
| Total tuberculosis visits | 1,628 |
| Infant death investigation | 29 |
| Special visits | 26 |
| Alpine lamp treatments | 381 |
| BOSTON LYING-IN HOSPITAL: | |
| Pre-natal Clinic: | |
| Number of clinics | 13 |
| Attendance | 241 |
| New cases | 86 |
| COMMUNITY HEALTH ASSOCIATION: | |
| General Division: | |
| Home visits by nurses | 8,911 |
| BOSTON DISPENSARY: | |
| Calls by district physician | 220 |
| STATE DEPARTMENT OF MENTAL DISEASES: | |
| Number of clinics | 8 |
| Attendance at clinics | 42 |
| Visits of workers | 106 |
| New cases | 17 |
| INFANTILE CLINIC OF CHILDREN'S HOSPITAL: | |
| Number of clinics | 7 |
| Attendance | 78 |
| New cases | 6 |

## FOOD INSPECTION DIVISION.

### MARKET, STORE AND RESTAURANT SERVICE.

| | |
|---|---|
| Reinspections | 286 |
| Stores inspected | 4,543 |

| | |
|---|---|
| Sanitary defects remedied | 160 |
| Complaints at office | 40 |
| Referred to Sanitary Division | 12 |
| Milk applicants | 38 |
| Notices to abate nuisances | 92 |
| Court cases | 5 |
| Pending | 1 |
| Continued | 4 |
| Applications for pedlers' licenses approved | 28 |
| Vehicles inspected and approved | 426 |
| Laboratory Examinations: | |
| Bacteriological | 6 |
| Chemical | 3 |

CONDEMNATIONS.

| | | | |
|---|---|---|---|
| Meat: | | Vegetables: | |
| Beef | 5 pounds | Cabbage | 3 barrels |
| Chicken | 20¾ pounds | Canned beans | 2 cans |
| Coons | 5 pounds | Pickles | 4 quarts |
| Duck | 3¼ pounds | Peppers | 200 baskets |
| Fowl | 22 pounds | Tomatoes | 63,805 pounds |
| Frankfurts | 24 pound | Fruit: | |
| Ham | 8¾ pounds | Oranges | 16 dozen |
| Ox tails | 150 pounds | Raisins | 67¾ pounds |
| Pork | 10 pounds | Miscellaneous: | |
| Poultry | 27 pounds | Barley | 1 package |
| Sausage | 1 pounds | Candy | 580 pounds |
| Turkey | 188½ pounds | Chocolate | 25 pounds |
| | | Coffee | 348 pounds |
| Fish: | | Gelatine | 4 pounds |
| | | Matzoth | 1 package |
| Lobster | 2 pounds | Macaroni | 1 package |
| Salmon | 1 can | Spice | 14 pounds |
| | | Tea | 2 pounds |
| | | Walnuts | 279 pounds |

## LIVE STOCK INSPECTION (Brighton Abattoir).

| | | | |
|---|---|---|---|
| Cattle inspected | 4,251 | Parts condemned (pounds) | 17,677 |
| Calves inspected | 3,865 | Animals condemned | 61 |
| Swine inspected | 5,332 | | |

## DAIRY DIVISION.

| | | | |
|---|---|---|---|
| Total inspection | 1,296 | Total cattle inspected | 3,275 |
| Dairies inspected | 209 | Inspections of milk plants and licensed dealers | 274 |
| Scoring above 50 * | 187 | Bacteriological examinations | 12 |
| Scoring below | 22 | Country creamery inspections | 12 |
| With milk rooms | 178 | Sediment tests | 763 |
| Without milk rooms | 31 | | |
| Inactive | 22 | | |

* Passable mark.

## BUREAU OF MILK INSPECTION.

### SAMPLES EXAMINED.

| | |
|---|---|
| CHEMICAL: | |
| Milk from wagons | 231 |
| Milk from stores | 1,000 |
| Milk brought by citizens | 3 |
| Vinegar | 34 |
| Cheese | 8 |
| Ice cream | 1 |
| Water | 3 |
| Cider | 2 |
| Miscellaneous | 3 |
| Bottles | 12 |
| Caps | 54 |
| BACTERIOLOGICAL: | |
| Milk | 496 |
| Ice cream | 102 |

## SANITARY INSPECTION.

| | | | |
|---|---|---|---|
| Original inspections | 2,466 | Routine inspections | 2,372 |
| Reinspections | 5,520 | Legal notices served | 119 |
| Nuisances abated | 1,464 | Complaints investigated | 460 |

## BACTERIOLOGICAL LABORATORY.

| | |
|---|---|
| Diphtheria | 992 |
| Tuberculosis | 483 |
| Typhoid | 29 |
| Gonorrhea | 805 |
| Gonorrheal ophthalmia | 51 |
| Syphilis | 1,420 |
| Other examinations * | 88 |
| Bacteriological examinations of milk | 496 |
| Bacteriological examinations of ice cream | 102 |

* Malaria, 2; urines, 16; tests for virulence, 3; genito-urinary tuberculosis, 17; smears for organisms, 3; smear for haemolitic streptococci, 1; dark field examinations, 3; smears for Vincent's angina, 8; beef, iron and wine for poison, 1; tin cans for organisms, 1; canned peas for poison, 1; scalloped potato for poison, 1; canned salmon for putrefaction, 1; cake for color particles, 1; turkey for putrefaction, 1; water for sterility, 1; urine and feces for B. typhosus, 27.

## MONTHLY REPORT OF VENEREAL DISEASE ACTIVITIES, JANUARY, 1928.

### SYPHILIS.

| | |
|---|---|
| Current cases under investigation January, 1928 | 19 |
| New cases during January | 22 |
| Total | 41 |

Disposition of Cases.

| | |
|---|---|
| Placed under treatment | 5 |
| Unable to locate | 6 |
| Moved out of town | 3 |
| False address | 3 |
| Under investigation | 24 |
| Total | 41 |
| New cases reported by number | 70 |

GONORRHEA.

| | |
|---|---|
| Current cases under investigation, January, 1928 | 42 |
| New cases during January | 75 |
| Total | 117 |

Disposition of Cases.

| | |
|---|---|
| Placed under treatment | 14 |
| Unable to locate | 26 |
| False address given | 12 |
| Moved out of town | 4 |
| Under investigation | 61 |
| Total | 117 |
| New cases reported by number | 220 |

SUMMARY.

| | |
|---|---|
| Current cases under investigation, January 1, 1928 | 61 |
| New cases during January | 97 |
| Total | 158 |

Disposition of Cases.

| | |
|---|---|
| Placed under treatment | 19 |
| Unable to locate | 32 |
| Moved out of town | 7 |
| False address given | 15 |
| Under investigation | 85 |
| Total | 158 |
| Visits by investigator | 266 |

VENEREAL COMPLAINTS AND SOURCES OF INFECTION.

| | |
|---|---|
| Under treatment | 2 |
| Unable to locate | 2 |
| Free from disease | 1 |
| False address | 1 |
| Total | 6 |
| Venereal deaths investigated | 2 |

## REPORT OF TUBERCULOSIS DIVISION, JANUARY, 1928.

In the month of January, there were 97 clinic sessions held in the nine clinics.

Distribution of clinics was as follows:

| | |
|---|---|
| At the South End Health Unit | 16 clinics |
| At the North End Health Unit | 12 clinics |
| At the East Boston Health Unit | 14 clinics |
| At the West End Health Unit | 12 clinics |
| At the South Boston Health Unit | 8 clinics |
| At the Brighton Health Unit | 9 clinics |
| At the Charlestown Health Unit | 9 clinics |
| At the Codman Square Health Unit | 9 clinics |
| At the Hyde Park Health Unit | 8 clinics |
| Total | 97 clinics |
| Total number of cases | 1,305 |

| Districts. | Total Number Cases at Clinics. | | | Total Number of New Cases at Clinics. | | |
|---|---|---|---|---|---|---|
| | Adult. | Children. | Total. | Adult. | Children. | Total. |
| South End | 187 | 129 | 316 | 35 | 18 | 53 |
| North End | 57 | 72 | 129 | 8 | 10 | 18 |
| East Boston | 122 | 246 | 368 | 27 | 22 | 49 |
| West End | 58 | 53 | 111 | 10 | 6 | 16 |
| South Boston | 71 | 55 | 126 | 16 | 14 | 30 |
| Brighton | 28 | 12 | 40 | 7 | 3 | 10 |
| Charlestown | 25 | 20 | 45 | 8 | 5 | 13 |
| Codman square | 23 | 36 | 59 | 2 | 6 | 8 |
| Hyde Park | 65 | 46 | 111 | 14 | 3 | 17 |
| Totals | 636 | 669 | 1,305 | 127 | 87 | 214 |

| Districts. | Von Pirquet. | Wasserman. | Lamp. | X-Ray. |
|---|---|---|---|---|
| South End | 32 | 24 | 114 | 162 |
| North End | 13 | 2 | 58 | 54 |
| East Boston | 48 | 10 | 193 | 75 |
| West End | 2 | 2 | — | — |
| South Boston | 9 | 4 | 127 | 52 |
| Brighton | 1 | 4 | — | — |
| Charlestown | 9 | — | — | — |
| Codman square | 3 | 5 | — | — |
| Hyde Park | 5 | — | — | — |
| Totals | 122 | 51 | 492 | 343 |

## TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING JANUARY, 1928.

| Classification. | Number. | Percentage. |
|---|---|---|
| After death | 5 | 10.00 |
| Seven days or less | 4 | 8.00 |
| Eight to fourteen days, inclusive | 2 | 4.00 |
| Fifteen to twenty-one days, inclusive | 1 | 2.00 |
| Twenty-two to thirty-one days, inclusive | — | — |
| Within First Month. (Total) | 12 | 24 00 |
| Within second month | 4 | 8.00 |
| Within third month | 1 | 2.00 |
| Within fourth month | 4 | 8.00 |
| Within fifth month | 1 | 2.00 |
| Within sixth month | 1 | 2.00 |
| Within seventh month | — | — |
| Within eighth month | 3 | 6.00 |
| Within ninth month | 1 | 2.00 |
| Within tenth month | — | — |
| Within eleventh month | 3 | 6.00 |
| Within twelfth month | — | — |
| Within First Year Preceding Death. (Total) | 30 | 60.00 |
| Within second year | 6 | 12.00 |
| Within third year | 5 | 10.09 |
| More than three years | 9 | 18.00 |
| Grand totals | 50 | 100.00 |

# CHILD HYGIENE DIVISION.

## REPORT OF ACTIVITIES OF MEDICAL INSPECTORS JANUARY, 1928.

| | |
|---|---|
| Inspections | 768 |
| Physical examinations | 52 |
| Schick tests | 8 |
| Toxin-antitoxin administrations | 217 |
| Vaccinations | 76 |
| Vaccination certificates issued | 40 |
| Anti-typhoid inoculations | 3 |
| Day nursery visits | 46 |
| Parochial school visits | 4 |
| Conferences | 9 |
| Special visits | 1 |

# CHILD HYGIENE DIVISION.

## REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES FOR JANUARY, 1928.

| Station. | Toxin–Antitoxin. | | | | Number of Vaccinations. |
|---|---|---|---|---|---|
| | First. | Second. | Third. | Total. | |
| Old Town Hall, Brighton | 3 | 1 | — | 4 | 3 |
| 31 Lincoln street, Brighton | 1 | 1 | 2 | 4 | 6 |
| Charlestown Municipal Building | — | — | — | — | 13 |
| Codman Square Library | 8 | 4 | 3 | 15 | 4 |
| Columbia Road Municipal Building | 5 | 7 | 3 | 15 | 10 |
| 1 Arcadia street, Dorchester | — | — | — | — | 7 |
| East Boston Health Unit | — | — | — | — | — |
| Hyde Park Municipal Building | 1 | 1 | — | 2 | 9 |
| Curtis Hall, Jamaica Plain | 7 | 8 | 5 | 20 | 2 |
| 41 North Margin street | 2 | — | — | 2 | 6 |
| Roslindale Municipal Building | — | — | — | — | 6 |
| Beth Israel Hospital | 3 | 3 | 3 | 9 | 2 |
| Children's Hospital | — | — | 1 | 1 | — |
| 1049 Columbus avenue | — | — | — | — | 18 |
| Vine Street Municipal Building | 6 | 4 | 1 | 11 | 20 |
| 133 Dorchester street, South Boston | 4 | 1 | — | 5 | 2 |
| 57 East Concord street | 6 | — | — | 6 | — |
| Shawmut Avenue Municipal Building | 2 | 4 | 2 | 8 | 8 |
| 122 Tyler street | 2 | 2 | 1 | 5 | 8 |
| 17 Blossom street | — | — | — | — | — |
| Totals | 50 | 36 | 21 | 107 | 124 |

## MONTHLY REPORT OF CHILD HEALTH CONFERENCES JANUARY, 1928.

| Station. | Number of Babies. | Number of Pre-school. | Total Attendance. | Number of New Babies. | Number of New Preschool. | Total New Cases. | Number of Conferences. | Average Attendance. |
|---|---|---|---|---|---|---|---|---|
| Old Town Hall, Brighton | 215 | 22 | 237 | 21 | 1 | 22 | 4 | 59 |
| 31 Lincoln street, Brighton | 67 | 14 | 81 | 11 | 2 | 13 | 4 | 20 |
| Charlestown Municipal Building | 224 | 21 | 245 | 20 | 2 | 22 | 7 | 35 |
| Codman Square Library | 339 | 33 | 372 | 48 | 4 | 52 | 8 | 47 |
| Columbia Road Municipal Building | 458 | 9 | 467 | 38 | 1 | 39 | 8 | 58 |
| 1 Arcadia street, Dorchester | 370 | 7 | 377 | 40 | — | 40 | 9 | 42 |
| East Boston Health Unit | 314 | 41 | 355 | 56 | 6 | 62 | 8 | 44 |
| Hyde Park Municipal Building | 143 | 14 | 157 | 16 | 1 | 17 | 4 | 39 |
| Curtis Hall, Jamaica Plain | 209 | 12 | 221 | 25 | 3 | 28 | 4 | 55 |
| 41 North Margin street | 168 | 79 | 247 | 22 | 1 | 23 | 9 | 27 |
| Roslindale Municipal Building | 211 | 42 | 253 | 29 | 5 | 34 | 4 | 63 |
| Beth Israel Hospital | 158 | 12 | 170 | 16 | 2 | 18 | 4 | 43 |
| Children's Hospital | 136 | 8 | 144 | 19 | — | 19 | 5 | 29 |
| 1049 Columbus avenue | 332 | 24 | 356 | 57 | 2 | 59 | 9 | 40 |
| Vine Street Municipal Building | 285 | 21 | 306 | 56 | 3 | 59 | 8 | 39 |
| 133 Dorchester street, South Boston | 374 | 47 | 421 | 81 | 24 | 105 | 9 | 47 |
| 57 East Concord street | 102 | 5 | 107 | 9 | — | 9 | 5 | 21 |
| Shawmut Avenue Municipal Building, | 120 | 21 | 141 | 16 | 6 | 22 | 4 | 35 |
| 122 Tyler street | 145 | 15 | 160 | 18 | — | 18 | 4 | 40 |
| 17 Blossom street | 355 | 42 | 397 | 35 | 3 | 38 | 8 | 50 |
| Totals | 4,725 | 489 | 5,214 | 633 | 66 | 699 | 125 | 42 |

# VITAL STATISTICS, JANUARY 1928.

## BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING JANUARY, 1928, WITH COMPARATIVE FIGURES FOR JANUARY, 1927.

| | BIRTHS AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **All Causes:** | | | | | | |
| Total deaths | 991 | 1,053 | —62 | 14.88 | 15.93 | —1.05 |
| Nonresidents deducted | 816 | 865 | —49 | 12.25 | 13.09 | —.84 |
| **By Age:** | | | | | | |
| Under one year | 94 | 115 | —29 | 1.41 | 1.74 | —.33 |
| One year to four years, inclusive | 54 | 35 | +19 | .81 | .53 | +.28 |
| Sixty years and over | 455 | 453 | + 2 | 6.83 | 6.85 | +.02 |
| **By Special Causes:** | | | | | | |
| Degenerative Diseases, So Called: | | | | | | |
| Apoplexy | 61 | 54 | +7 | .91 | .82 | +.09 |
| Arteriosclerosis | 28 | 30 | —2 | .42 | .45 | —.03 |
| Heart disease | 232 | 239 | —7 | 3.48 | 3.62 | —.14 |
| Nephritis, chronic | 55 | 53 | +2 | .82 | .80 | +.02 |
| Infant and Maternal Mortality: | | | | | | |
| *a.* Total registered live births | 1,181 | 1,223 | —42 | 17.73 | 18.51 | —.78 |
| *b.* Registered stillbirths | 30 | 34 | —4 | .45 | .51 | —.06 |
| Stillbirths per 1,000 births and stillbirths | — | — | — | 24.77 | 27.05 | —2.28 |
| *c.* Deaths of mothers from causes incident to childbirth | 12 | 13 | —1 | .18 | .20 | —.02 |
| Deaths of mothers per 1,000 births and stillbirths | — | — | — | 9.91 | 10.34 | —.43 |
| Deaths of children in first year of life | 94 | 115 | —21 | 1.41 | 1.74 | —.33 |
| Deaths in first year per 1,000 live births, | — | — | — | 79.59 | 94.03 | —14.44 |
| Violence: | | | | | | |
| Accidents | 40 | 48 | —8 | .60 | .73 | —.13 |
| Homicides | 3 | 2 | +1 | .04 | .03 | +.01 |
| Suicides | 6 | 3 | +3 | .09 | .04 | +.05 |
| Miscellaneous: | | | | | | |
| Alcoholism, acute or chronic | 6 | 23 | —17 | .09 | .35 | —.26 |
| Broncho-pneumonia | 51 | 65 | —14 | .76 | .98 | —.22 |
| Cancer | 125 | 96 | +29 | 1.88 | 1.45 | +.43 |
| Cirrhosis of the liver | 3 | 7 | —4 | .04 | .10 | —.06 |
| Diabetes mellitus | 12 | 27 | —15 | .18 | .41 | —.23 |
| Diarrheal diseases, children under two years of age | 7 | 13 | —6 | .10 | .20 | —.10 |

| | CASES AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **Communicable Diseases:** | | | | | | |
| Anterior poliomyelitis.....Cases.. | 7 | 4 | +3 | .10 | .06 | +.04 |
| Deaths. | 1 | — | +1 | .015 | — | +.015 |
| Cerebrospinal meningitis.....Cases.. | 2 | 1 | +1 | .03 | .015 | +.015 |
| Deaths. | 1 | 1 | — | .015 | .015 | — |
| Diphtheria.....Cases.. | 110 | 133 | —23 | 1.65 | .201 | +.36 |
| Deaths | 5 | 7 | —2 | .075 | .04 | +.035 |
| Influenza.....Cases.. | 14 | 21 | —7 | .21 | .32 | —.11 |
| Deaths. | 4 | 2 | +2 | .06 | .03 | +.03 |
| Measles.....Cases.. | 1,576 | 135 | +1,441 | 23.66 | .204 | +21.62 |
| Deaths. | 8 | 1 | +7 | .12 | .015 | +.105 |
| Pneumonia (lobar).....Cases.. | 178 | 199 | —21 | 2.67 | .301 | —.34 |
| Deaths. | 67 | 83 | —16 | 1.01 | 1.25 | —.24 |
| Scarlet fever.....Cases.. | 369 | 598 | —229 | 5.54 | 9.05 | —3.51 |
| Deaths. | 2 | 3 | —1 | .03 | .04 | —.01 |
| Tuberculosis (pulmonary).....Cases.. | 113 | 123 | —10 | 1.70 | 1.86 | —.16 |
| Deaths. | 50 | 44 | +6 | .75 | .66 | +.09 |
| Tuberculosis (other forms).....Cases.. | 36 | 24 | +12 | 5.4 | .36 | +.18 |
| Deaths. | 7 | 9 | —2 | .10 | .14 | —.04 |
| Typhoid fever.....Cases.. | 7 | 8 | —1 | .10 | .12 | —.02 |
| Deaths. | 1 | 1 | — | .015 | .015 | — |
| Whooping cough.....Cases.. | 348 | 65 | +283 | 5.22 | .98 | +4.24 |
| Deaths. | 8 | 1 | +7 | .12 | .015 | +.105 |

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births, per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1928 (mid-year), based upon the federal census of 1920, has been used.

**DO NOT DESTROY.**

When you have no further use for this Circular give it to someone else.

1103 T559

MONTHLY BULLETIN

# HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the EDITOR MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

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## EXERCISE.

*Exercise a Preventive, Not a Cure.*

With the present limitations of our biological knowledge we cannot state all the reasons why muscular activity is beneficial to health. There are, however, some well-known facts that furnish a rational basis for certain forms of exercise.

While the heart is the chief organ of circulation in the body, it is not the only agency concerned. The proper movement of fluids through the tissues of the body is dependent upon the contraction and relaxation of muscles besides those of the heart.

The movement of the diaphragm and the action of other involuntary muscles concerned in the unconscious process of respiration are important factors in maintaining the circulation of bodily fluids, especially in the abdomen. Then, too, as nature has constructed the higher animals, she looks for further circulatory help from the voluntary muscles as well.

Physical health and the proper functioning of the brain are dependent upon the free circulation of the fluids which supply nutriment to the tissues and remove waste. Nature even looks to the contractions of adjacent voluntary muscles to assist in the circulation of the blood in the veins. Such circulatory help from voluntary

muscles is especially needed in man in whom, by reason of his erect posture, circulation must be maintained to a much greater extent relatively against the force of gravity than in animals which travel on "all fours."

Gravity also makes muscular exercise needful for other reasons. Bones, joints, internal organs and other parts of the body cannot be kept in their natural relative positions necessary for normal functioning unless they be so maintained by muscles of sufficient strength to resist the pull of gravity. A muscle which is not worked grows weak and fails to withstand the stress of gravity. A distortion of joints and a displacement of internal organs is the inevitable result.

The ends of bones are attached to each other by ligaments. The abdominal and other internal organs are likewise connected to the bony skeleton by ligaments. Ligaments are, however, not intended to stand strain, while muscles are. On loss of adequate muscular support ligaments give way.

Failure to maintain healthy muscles to support ligaments as nature intended is responsible for sacro-iliac trouble with its symptoms of pressure on the sciatic nerve, for hernias, for excessive abdominal fat, for many digestive derangements, and for varicose conditions of the legs, except in the relatively infrequent instances in which the above-named disabilities arise from congenital malformations.

The first signs of muscular deficiency are usually to be seen in the abdomen. A tendency to increase in girth is such a sign. There may be a noticeable abdominal sagging and a dragging forward of the spine in this region and the development of compensatory curves further up as indicated by the caved-in back of the neck and flat chest — the classical "bad posture" picture.

Nature may make an effort to bolster up the sagging abdomen by packing fat in behind the weakened stretching muscles. For the time being this expedient may serve its purpose. The effect on the muscles of the back in carrying the increased abdominal weight may likewise serve to produce a characteristic posture.

If a person be young and physically and mentally normal, almost any kind of muscular activity will serve to keep all the muscles properly tuned. One needs only to injure an obscure muscle somewhere in his body, to be brought to realize that a simple bodily movement brings into play other muscles than those which he may think are only concerned.

### *Exercise for Health, Not for Strength.*

While the activity of one group of muscles should benefit all, the use of a group of muscles sufficient to bring about a local muscu-

lar enlargement disproportionate to the person's general muscular development is never productive of permanent good. There may be such recognizable results as are referred to as being "muscle bound." Perhaps there may be an obvious distortion of the body resulting from improper muscular balance. Apart from the direct consequences of an overworked and hypertrophied group of muscles, an unusual muscular development, even if symmetrical, gives no assurance of good health. Men differ widely within normal limits with respect to development of the muscular system, but whether natural or acquired, there probably is justification for the belief that big muscles are to be regarded as a personal liability rather than as an asset.

Muscular activity in the form of purposeless motions or "setting up exercises" is better than nothing and may serve to maintain health, but muscular efforts directed to the accomplishment of some tangible object are always to be preferred. If an element of competition can be introduced, so much the better. Muscular activity which involves the employment of mental faculties as well, reacts directly to the benefit of the brain and whole nervous system. This is why one feels so different after a horseback ride, a game of golf or "even after passing the medicine ball," than when having dutifully finished an irksome series of bodily contortions to a musical accompaniment. It is not wholly the military drill which makes a man who has honorably completed military service a more desirable citizen than his brother who has not. It is far more because of the mental stimulus which comes from competitive contact with others who also are learning to perform soldiers' duties, really designed to give a man the mental training that will enable him to act right in emergencies. The middle-aged, rotund policeman is not suffering from lack of exercise. His physical condition is the consequence of mental monotony and of unbalanced exercise, if not also of muscular fatigue. The prevention of his condition must include some competitive stimulus to mental activity.

*Exercise Should Always Stop Short of Fatigue.*

Physical exhaustion is always dangerous. The danger point is reached sooner by unaccustomed muscular effort than by work which is habitual. So, too, muscular exertion which might be undertaken without risk by one in good health may become dangerous if the same person be suffering from acute illness. Physical exhaustion is probably the most important predisposing cause of pneumonia. It likewise prepares the soil for other acute infections. The regular military "hike" has left many soldiers with a perma-

nently damaged heart because undertaken by soldiers when physically weakened by what they regarded as an inconsequential digestive disturbance.

*Exercise for the Abnormal.*

Anybody who does not feel well or who does not look well is abnormal. Such a person is to be regarded primarily as calling for attention from a physician. It is not to be assumed that exercise is suitable treatment even for conditions which may have been brought about by lack of exercise.

Persons who have neglected regular muscular exercise are very likely to turn suddenly to muscular activity for the relief of symptoms of ill health which they dare no longer ignore. Often in such instances the results of unaccustomed muscular efforts are disastrous. The chances are more than even that the symptoms which serve as the decisive factor in causing a person to change his habits with respect to exercise are due to the development of some bodily condition which is not going to be remedied by exercise and which may call for physical rest.

The commonest cause of symptoms of ill being is the manufacture of poisonous products within the body. Very often when this is thought to be the result of physical inactivity it is not. It may be due to an acute infection. If so, the need of rest is imperative. Whether a cold, an infected hand, a carbuncle, or pneumonia, the best way to help nature overcome the infection is by rest. We may not understand fully why this is so, but in such conditions the promotion of the circulation of the bodily fluids is certainly more safely effected by placing the body in a horizontal position and thus eliminating the retarding effect of the force of gravity on circulation. Even such a symptom of circulatory derangement as a high blood pressure may rapidly decrease with enforced rest in bed in a horizontal position.

When symptoms of ill health persist without obvious cause, chronic focal infections are to be sought out and remedied before prescribing unrestricted muscular activity. Exercise, no matter how carefully devised, is not an appropriate treatment for a chronic infection from teeth, tonsils, sinuses, gall bladder or bowels.

When ill health has been traced to the absorption of poisonous products from the digestive tract and presumably caused by overeating and physical inactivity, it does not necessarily follow that exercise alone will be appropriate treatment. It may be that an abdominal situation has developed requiring rest in a horizontal position in order to enable the abdominal organs to function properly and to provide a favorable condition for the restoration of adequate muscular support by specially devised exercises.

Even in the treatment of "bad posture," exercise has distinct limitations. In older persons, poor posture may be attributable entirely to disused muscles and the pull of gravity. Posture, however, is essentially an expression of a person's mentality. Muscular tone depends quite as much on muscular enervation as size. Nothing is so indicative of a defective nervous organization and a disordered mentality as a bad posture and poor muscular co-ordination. "Bad posture" in the young may be indicative of physical disease, of a poisoning of nerve cells through the absorption of septic or other toxic substances, but more often it is a manifestation of a congenitally defective nervous organization. Posture clinics for children are called for chiefly to furnish help to the congenitally abnormal.

The proper exercise for the abnormal, including the middle-aged persons who have lost the normal human form through bad habits and the law of gravitation, calls for the consideration of individual needs. So far as the latter are concerned it may be safely said, however, that exercise should regularly include muscular efforts on the part of the upper limbs and movements of both upper and lower limbs with the body in a horizontal position. As emphasized by the late Dr. Walter Camp, movements thus directed to corrective purposes and to promote the circulation of bodily fluids should be slow (as ordinarily performed they are entirely too fast for the best results) and when a limb or muscle has been stretched or contracted to its fullest extent it should be so held momentarily.

In the middle aged, especially, the benefit of muscular activity will be greatly increased by occasionally lying down and by a brief period of rest in a horizontal position after the customary bath and rub-down following exercise which has induced perspiration.

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## HYDROGEN SULPHIDE POISONING.

The Boston Health Department recently received a complaint of a "rotten egg smell" in connection with oil which was being used as a fuel for heating purposes and to which symptoms of ill health were ascribed. A rotten egg smell is characteristic of hydrogen sulphide. Sulphur is contained in various chemical combinations in crude oil from Mexico and certain parts of the United States, especially from recent developments in Texas.

In oils containing sulphur, hydrogen sulphide will be given off as a dangerous gas when the oil appears above ground and during the refining process. Notwithstanding its offensive odor, hydrogen sulphide poisoning has come to be a well recognized industrial hazard

in the oil industry. In a concentrated state, the smell does not appear to be recognized by workmen and a single breath of it may produce fatal results. Death comes from paralysis of respiration.

Even a small amount of hydrogen sulphide in the air, as little as .005 per cent, when breathed daily, will give rise to subacute poisoning, of which the most conspicuous symptoms are an inflammation of the eyes and eyelids and irritation of the nose, throat and lungs.

One company in a sulphur-bearing oil field makes use of the following warning posters:

"Oil and gas in the vicinity may contain enough hydrogen sulphide to cause unconsciousness and death without warning."

"Observe the following precautions under all conditions."

1. "Never stand on the side of any opening where escaping gas will blow toward you."

2. "Never enter a tank, or other inclosed places, where from leaks, breaks, or otherwise, this gas has accumulated, without wearing proper breathing equipment, safety belt and life line."

3. "Do not try to determine the presence of harmful quantities by its odor."

4. "If a break in a line occurs, hold your breath and get out of the danger zone. Report all dangerous conditions and get instructions."

5. "In case a man is overcome, get him to fresh air (using precautions for self-protection); give artificial respiration at once; call a doctor."

As sulphur-bearing oils are becoming more common in this country, the above precautions are to be observed wherever and whenever oils giving off a rotten egg odor are stored or handled in any way.

Dangerous sulphur gases are eliminated from kerosene and gasolene in the refining processes. The fumes of gasolene, naphtha and other volatile petroleum products are injurious if breathed to any extent because of their own poisonous effects. "Ethyl gas" has also its own special dangers.

In the form in which oil is ordinarily delivered in this vicinity for domestic heating purposes there can be comparatively little hydrogen sulphide remaining although, as in the Health Department case above referred to, the odor may be quite noticeable. Hydrogen sulphide will burn if given sufficient air. When hydrogen sulphide can be smelled in connection with burning oil it may be assumed that there is a degree of imperfect combustion which is causing the formation of odorless carbon monoxide and making this gas of much more practical importance so far as danger is concerned.

In other words, a rotten egg odor is to be regarded as a warning just as is the smell of sulphur gases when coal is being burned with insufficient air or ventilation.

In the Health Department case, the symptoms of ill health were due, probably entirely, to carbon monoxide. Instead, therefore, of furnishing evidence of a new danger in domestic heating by oil it really serves as a reason for reiterating the Health Department's often repeated warning regarding the dangers of chronic as well as of acute poisoning from carbon monoxide gas.

Carbon monoxide gas is given off in harmful if not fatal amounts wherever any carbonaceous material is being burned with an inadequate air supply, whether the material be wood, coal, charcoal, fuel oil, or kerosene or gasolene in an automobile engine.

The danger whether from an automobile in a garage or a gas stove or portable kerosene heater in a house will depend on the degree of inadequacy of the air supply at the flame and the ventilation of the room.

There are no burners or burning devices in existence which can be depended upon to assure such perfect combustion as to prevent the formation of carbon monoxide gas in harmful amounts.

All stoves or heaters should be directly ventilated to the open air.

In addition to the dangers of imperfect combustion in connection with gas stoves or heaters, the gas itself consists in a large proportion of carbon monoxide which is likely to escape into a room through leaky pipes, tubing and joints.

Never disregard a disagreeable smell from burning fuel or the odor of escaping gas. Open windows and make sure of the cause.

In the Health Department case herein referred to, the hydrogen sulphide and carbon monoxide gases found their way from the fire box of a hot air furnace up through the registers into the living rooms of the house. This happened in spite of the fact that before the oil heating apparatus was installed the furnace had been overhauled with a view to assuring the tightness of all connections which might possibly permit the admission of gases from the fire box into the air flues. In whatever way the leakage may have occurred there would, of course, have been a like danger of carbon monoxide poisoning if coal had been used in the fire box instead of oil.

About 150 cases of carbon monoxide poisoning causing unconsciousness or death are reported to the Boston Health Department annually. The number of cases of chronic poisoning in the city cannot as yet be estimated but as its symptoms are becoming better recognized it is evident that chronic monoxide poisoning is much more common than has been supposed.

## RULES OF HYGIENE.

1. Ventilate every room you occupy.
2. Wear loose, porous clothing suited to season, weather, and occupation.
3. If you are an indoor worker, be sure to get recreation outdoors.
4. Sleep in fresh air always; in the open if you can.
5. Hold a handkerchief before your mouth and nose when you cough or sneeze and insist that others do so too.
6. Always wash the hands before eating.
7. Do not overeat. This applies especially to meats and eggs.
8. Eat some hard and some bulky foods; some fruits.
9. Eat slowly — chew thoroughly.
10. Drink sufficient water daily.
11. Evacuate thoroughly, regularly.
12. Stand, sit, and walk erect.
13. Do not allow poisons and infections to enter the body.
14. Keep the teeth, gums, and tongue clean.
15. Work, play, rest, and sleep in moderation.
16. Keep serene. Worry is the foe of health. Cultivate the companionship of your fellow men.
17. Avoid self drugging. Beware the plausible humbug of the patent medicine faker.
18. Have your doctor examine you carefully once a year. Also consult your dentist at regular intervals.— (U. S. P. H. S.)

## VITAL STATISTICS FOR MEDICAL MEN.

*(The following notes are a continuation of the series by Dr. Frederick L. Hoffman, consulting statistician, that began in the November, 1927, issue of the "Bulletin." As explained at that time, these notes will be so written as to make them readable and attractive to medical men, public health workers and laymen, and in such a manner that they will show their direct relation and value to the prevention of disease and prolongation of life.)*

### Disease Incidence and Fatality Rates.

The notifiable diseases fall into four distinct groups; 1, infectious diseases; 2, occupational diseases and injuries; 3, venereal diseases, and 4, diseases of unknown or noninfectious origin. Such diseases are in the first instance reported to the local, the county or the State Board of Health. Information concerning them is transmitted by letter or wire to the United States Public Health Service, Washington. This office publishes weekly a tabulation of such diseases as reported throughout the country, followed by annual tabulations which have now been issued for quite a number of years. These tabulations provide much useful information for a variety of purposes, especially the control of such diseases from a public health point of view. Selecting some of these diseases for purpose of illustration, the following are dealt with, the observations being limited to cities of over 100,000 population.

*Chicken pox* in 68 cities in 1926 was represented by 65,176 cases or at the rate of 2.24 per 1,000 of population. There were 28 deaths or one death in every 2,328 cases. *Diphtheria* occurred in 39,269 cases in 70 cities, the case rate being, therefore, 1.33 per 1,000, while the number of deaths was 2,880. The death rate was 0.10 per 1,000 while the fatality rate was 7.3%. These figures may be compared with the City of Boston which in 1926 had a case rate from diphtheria of 1.25 and a diphtheria death rate of 0.09. The fatality rate was 5.5 per cent against 7.3 per cent for large cities combined. There were during 1926 in 35 cities as many as 21,899 cases of *influenza* equivalent to a case incidence rate of 1.18 per 1,000. There were 3,952 deaths from influenza or at the rate of 0.21 per 1,000. The fatality rate was one death to every 5.5 cases. *Lethargic Encephalitis*, or so-called sleeping sickness, prevailed to the extent of 681 cases equivalent to a case rate of .03 per 1,000. There were 394 deaths from this disease equivalent to a death rate of 0.02, while the fatality rate was one death in every 1.7 cases. *Measles* is readily the outstanding infectious disease, there having been 234,208 cases in 70 cities equivalent to a case rate of 7.92 per 1,000. There were 2,432 deaths from measles or at the rate of 0.08 per 1,000 while the fatality rate was 1 per cent. For Boston the case rate in

measles was 5.5 per 1,000, the death rate was 0.08 and the fatality rate 1.4 per cent. Cases of *pneumonia* are not uniformly reported but in the City of Boston in 1926, there were 1,603 cases reported equivalent to 2.04 per 1,000. There were 1,283 deaths from pneumonia or at the rate of 1.63 per 1,000. There are the strongest possible reasons for believing that the number of cases was materially larger than the number reported. For New York City, for illustration, the number of cases reported was 3.83 per 1,000, while for Pittsburgh the rate was as high as 4.91 per 1,000, but Pittsburgh has always had an unusually high rate of incidence as indicated by a death rate of 1.97 per 1,000. *Scarlet fever* in 70 cities prevailed to the extent of 62,835 cases or at the rate of 2.13 per 1,000. There were 707 deaths from scarlet fever in these cities or at the rate of 0.02. The fatality rate in scarlet fever was 1.1 per cent. *Smallpox* in 70 cities prevailed to the extent of 4,664 cases or at the rate of 0.16 per 1,000. There were 26 deaths from smallpox. The fatality rate was 0.6 per cent. *Pulmonary tuberculosis* is as yet far from being completely reported. For 37 cities the number of cases reported was 33,592 or at the rate of 1.71. There were 15,242 deaths so that the death rate was 0.78 per 1,000. The ratio of deaths to cases was one in 2.2. For Boston, Mass., the case rate in tuberculosis was 2.19 per 1,000. The death rate was 0.87 per 1,000 and the fatality rate was one death in every 2.5 cases. *Typhoid fever* reports for 69 cities give a total number of cases of 4,779 or at the rate of 0.16 per 1,000. There were 814 deaths equivalent to a rate of 0.03 per 1,000. The fatality rate in typhoid fever was 17 per cent. For Boston the case rate was 0.18, the death rate 0.02 and the fatality rate 10.1. Finally as regards *whooping cough*, it appears that in 67 cities there occurred 55,832 cases equivalent to a rate of 1.92 per 1,000. There were 1,854 deaths from whooping cough or at the rate of 0.06 per 1,000. The fatality rate was one death in every 30 cases. For Boston the corresponding figures are case rate 4.54, death rate 0.14 and fatality rate one death in 33.

## Autopsy Records.

As a check upon the accuracy of clinical diagnoses, autopsy records are frequently of the utmost importance. It is most regrettable that the proportion of bodies that come to post mortem in this country should be relatively so small. Physicians cannot be too strongly urged to insist upon an autopsy wherever it is possible to obtain the consent of the parties. At the same time, the fact must not be overlooked that autopsy statistics which contradict clinical diagnoses have to be accepted with much caution. Most of the statistics published have reference to a select class of patients

among whom errors of diagnosis would be most common. It is only natural that an autopsy should in most cases reveal pathologic conditions which were not or could not be discovered at the bedside of the patient. At the same time many autopsy findings indicate carelessness in diagnosis, or ignorance, or even recklessness on the part of the attending physician. Fortunately progress is being made in this country in the direction of an increasing number of autopsies, at least in the experience of our larger hospitals. Some institutions have no difficulty in securing permission for an autopsy in nearly all cases in which death occurs. Other hospitals show less than 5 per cent of autopsies which, of course, is evidence of indifference to one of the most important aids towards improvements in diagnosis. In the case of no disease is an autopsy more required than in cancer. At the present time about one half the deaths from cancer occur in hospitals or institutions, which at the same time report a surprisingly small number of autopsies. Reforms in this direction are urgently called for.

## The Rate of Sickness.

As yet we know very little of real value regarding the rate of sickness in the community at large or among special classes, particularly wage earners in different trades. What at first may seem an easy matter is after all a rather complicated matter, for the correct ascertainment of sickness requires the keeping of accurate records for long periods of time. The most encouraging effort in this direction has been made by the United States Public Health Service at Hagerstown, Md., where fairly accurate records have been kept since 1921 for the entire population. For the period of twenty-eight months, the annual rate of sickness for all causes was 970 per 1,000 for males and 1,262 per 1,000 for females. The ratio of the illness rate of the females to that for males was, therefore, as 1.3 to 1. It has been the common experience that almost everywhere the female rate of general sickness is somewhat higher than the male rate, due unquestionably to peculiarities of sex. The foregoing rates may be interpreted in the statement that every person in the community during the course of the year is at least expected to experience one case of illness, of course, of variable duration. The sickness factor is profoundly affected not only by sex but even more so by age and by the industrial character of the population concerned. The sickness rate is highest for both sexes at ages under 15, lowest at ages 15 to 25, gradually increasing after 25 to the end of life. For every age period the sickness rates for females are higher than the rates for males except the first ten years of life when the male rate is very slightly higher.

The outstanding factor in American sickness experience is the predominating influence of diseases of the respiratory system. While the male rate for all forms of sickness in Hagerstown was 900.5 per 1,000 it was 608.7 per 1,000 for diseases of the respiratory system alone. The relative figures for females are about the same. Next to the respiratory disorders come the epidemic, endemic and infectious diseases, which for males accounted for 92.5 per 1,000 and for females for 85.1. These are followed by diseases of the digestive system, which, of course, include a large group of disorders, accounting for 89.0 per 1,000 for males and 120.4 per 1,000 for females. All other diseases caused a rate of less than 50 per 1,000 in males and less than 75 per cent in females. The most marked discrepancy in the sex ratio appears in diseases of the nervous system, which in males caused a rate of 23.3 and in females a rate of 72.2 per 1,000. But there are pronounced differences in nonvenereal disease of the reproductive organs, which in males caused a rate of 1.5 and in females of 23.8. The foregoing are exclusive of puerperal diseases which caused a rate of 47.2 per 1,000 females.

### Wage Earners' Sickness Rates.

The United States Public Health Service has published an interesting record of the sickness experience among the employees of the Edison Electric Illuminating Company of Boston, which have been recorded since January 1, 1913. Sickness rates in industry are materially modified by the practice of granting absence on account of sickness with full or partial payment of wages. Thus for male workers the Public Health Service has tabulated sickness returns for two groups, one of which was paid wages during disability showing a rate of 119.8 per 1,000, and the other paid no wages during disability showing a rate of 383. For females the results were about the same. It is pointed out that the average annual time lost by wage earners in the United States varies from about six to nine days per person per annum. In the ten-year experience among the employees of the Edison Company of Boston, the annual loss of time from sickness, exclusive of accidents, was 6.9 calendar days per male worker and 12.9 calendar days per female worker. Including industrial accidents the rate was 8.9 calendar days per annum for males and 14.0 calendar days per annum for females.

In wage earners experience general sickness of a nonindustrial origin comprehends the major portion of the total sickness experience but these, of course, vary considerably for different trades, for which as yet most of the information is rather fragmentary. In the experience of the Edison Company, among male workers with a general disability rate of 1,189 per 1,000 workers, diseases of the respiratory

system accounted for 442, and of the digestive system for but 296. The former caused an average absence of 4.50 calendar days per annum, while the latter caused an average absence of 4.80 days. For influenza the absence rate was 51 per 1,000 with an average duration of 9.82 days while for pulmonary tuberculosis the absence rate was only 2 per 1,000, but the average duration per absence was 163.4 days. It is the latter item which, of course, constitutes the major economic consequences to the person disabled. In appendicitis, for example, the average absence per case was 30.81 days, while in pneumonia it was 39.82 days. In diseases of the heart and arteries, it was 49.52 days and in rheumatism, both chronic and acute, it was 9.11 days.

The sickness rate in industry can also be calculated by a cross section of the census on a given day of absences on account of sickness and this, for certain purposes, is more useful, for it furnishes a definite index of the influence of the sickness factor on the industrial efficiency of a given plant. In a health survey of the printing trades, for example, it was shown that out of some 100,704 printing employees, 697 or 0.7 per cent were absent on account of sickness. This must be looked upon as a very definite index of reasonably satisfactory health conditions in the printing trades at the present time.

The most ambitious study of industrial sickness comprehends records of about 10,000 male industrial workers published by the Public Health Service in 1926. This is an admirable contribution to the whole study of industrial sickness which cannot be conveniently abbreviated for the present purpose.

## Occupational Deaths.

On account of their special industrial importance, primarily for compensation purposes, occupational diseases have only of recent years attracted attention in this country. Yet occupational diseases have been dealt with in a systematic manner as far back as 1705, when the first English translation of Bern. Ramazzini's treatise on the "Diseases of Tradesmen" was published in London. The next great work on the subject was the treatise "The Hygiene Diseases and Mortality of Occupations" by J. T. Arlidge, published in 1892. He was followed by Sir Thomas Oliver with an elaborate work on "Dangerous Trades" in 1902. The works of Sir Thomas Oliver on industrial diseases are classical and invaluable sources of useful reference. For this country the two standard sources are the works of Kober and Hayhurst on "Industrial Health" published in 1924 and the work of Dr. Alice Hamilton on "Industrial Poisons in the United States" published in 1925. These are but a few of a vast

literature of widely varying intrinsic value. The United States Bureau of Labor Statistics publishes from time to time monographs on particular trade afflictions which reveal a state of affairs demanding painstaking attention on the part of attending physicians. The practice is growing for large corporations to have their own medical departments and those in charge are organized into the National Association of Industrial Physicians.

Occupational diseases cover a wide range of afflictions. Compensable diseases are usually limited to a number of scheduled affections, chiefly the following: Anthrax, cataract, compressed air illness, occupational epitheliomatous, farcy, glanders, etc. The outstanding industrial affections are caused by industrial poisoning on the one hand and by industrial dust and noxious fumes on the other. The latter, however, with few exceptions, are not within the scope of compensation legislation although silicosis, for example, should unquestionably be made a compensable disease. The most important source of ill-health in industry is unquestionably inorganic dust which does injury to the lung tissues frequently with fatal results. But all dusts are more or less harmful and require in many instances extraordinary precautions, costly systems of ventilation, etc. Since the recovery of pecuniary damages often depends upon the accuracy of the death certificate, physicians require to be extremely careful in giving proper attention to all the facts which bear upon deaths from occupational affections. *(To be Continued.)*

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## SETTLEMENT LAWS IN MASSACHUSETTS.

Until the reign of Henry VIII, the poor in England depended solely on voluntary charity, and at the dissolution of the monasteries something was to be done with the multitude of poor persons who had received alms from them.

This was the occasion of the first compulsory poor law. Statute 27, Henry VIII, chapter 25 (A. D. 1535) which made the helpless poor a charge on the parishes and municipalities, "so that none go openly begging," and provided also that every "sturdy vagabond. be kept in continual labor," and all poor children be put to service, "A valiant beggar," the statute continues, or sturdy vagabond, shall at the first time be whipped, and sent to the place where he was born, or last dwelt, for the space of three years, there to get his living; and if he continues his roguish life, he shall have the upper part of the gristle of his right ear cut off; and if, after that, he be taken wandering in idleness, or does not apply to his labor, or is not, in service with any master, he shall be adjudged and executed as a felon."

The statute prohibits "any open or common dole and giving money in alms," except to the common boxes, and common gatherings in every parish."

After many other fruitless experiments, Overseers of the Poor were created in 1601, by Statute 43 of Elizabeth, chapter 2. They were churchwardens, *ex officio*, and two, three or four substantial householders, appointed by two justices of the county, in each parish. Their duty was to assess and collect the poor rate, and find relief or employment for the parish poor.

The Elizabethan statute is the foundation of the Poor Laws; it is humane and salutary; and we borrowed from it several useful provisions.

The support of the poor in Massachusetts was provided for by legislation at an early period. In 1639 it was ordered, "that any shire court, or any two magistrates out of court, shall have power to determine all differences about lawful settling, and providing for poor persons, and shall dispose of all unsettled persons into such towns as they shall judge to be most fit for the maintenance and employment of such persons and families for the ease of this County."

The care of the poor, and the relief of their necessities, were committed, at a very early period, in this Commonwealth to officers called Overseers of the Poor. The powers which it conferred were very large; and it was intended that they should be parentally exercised.

Rules to determine the settlements of paupers, that is to say, the town or other organization by which they should be supported, were from time to time established, and provision made for disputes in reference to this subject. In 1659 it was enacted. If no place was liable, the pauper was to be supported at the expense of the county, or by such town thereof as the county court should designate.

As early as 1767 it was provided that the cost of removing poor persons not settled in Massachusetts but in some other province or colony, if not paid by themselves, should be borne by the province, and in 1793 by a general act in regard to the "Relief and support employment and removal of the Poor," provision was made for the removal of poor persons having no legal settlement in the state, or their support at the expense of the Commonwealth.

The ordinary functions of the Overseers of the Poor were defined by the statute of 1793, chapter 59. It also stated that every existing settlement shall continue till it is lost or defeated by acquiring a new one within this state, and upon acquiring a new settlement all former settlements shall be defeated and lost.

The first military settlement law was approved May 13, 1865. This law gave a settlement to any person who shall have been duly enlisted and mustered into the military or naval service of the United States as a part of the quota of any city or town in the Commonwealth, during the Civil War, and who shall have continued in such service for a term not less than one year, or who shall have died or become disabled from wounds or diseases received or contracted while engaged in such service, or while a prisoner in the hands of the enemy, and the wife or widow and minor children of such person, shall be deemed to have acquired a settlement in such city or town, etc.

Section 1 of chapter 328, Acts of 1869, repealed the naturalization clause.

Chapter 392, Acts of 1870, was the first Woman Settlement Law, and declared that certain settlements acquired prior to 1794 were defeated and lost. Chapter 274, Acts of 1874 was called an act for the more efficient relief of the poor. Section 1 allowed a settlement to any person of the age of twenty-one years who resides in this state for five years together, and pays all taxes duly assessed on his poll or estate for any three years within that time. Section 2. Any woman of the age of twenty-one years, who resides in a place within this state for five years together without receiving relief as a pauper shall thereby gain a settlement in such place. The first section of the three hundred and ninety-second chapter of the Acts of 1870 is hereby repealed.

Chapter 183, Acts of 1877, the State Temporary Aid Law.—This act provides for reimbursement from the Commonwealth for expense incurred by a town for a state pauper provided that the town authorities shall give notice by mail to the general agent of state charities. Section 2, chapter 242, Acts of 1879, extended the right of settlement to married women, whose husbands have no settlement. (See Somerville, *v.* Boston, 120 Mass. 574.)

Chapter 30, Acts of 1891, section 1, amended the State Temporary Aid Law, and section 2 shortened the time for legal denial from two months to one month.

Section 29. "If such removal is not effected by the last mentioned Overseers within one month after receiving the notice, they shall within the said one month, send to one or more of the Overseers requesting such removal a written answer, signed by one or more of them, stating their objection to the removal; and if they fail so to do, the Overseer who requested the removal may cause the pauper to be removed to the place of his supposed settlement, by a written order directed to any person therein designated, who may execute the same, and the Overseers of the place to which the

pauper is so sent shall receive and provide for him; and such place shall be liable for the expenses of his support and removal, to be recovered in an action by the place incurring the same, and shall be barred from contesting the question of settlement with the plaintiffs in such action."

Chapter 153, Acts of 1891, extends time for legal notice of state sick poor to five days next before notice, and provides for support in hospitals, not to exceed five dollars for a week. Chapter 343, Acts of 1891, penalty for false answers to authorities.

Chapter 425, Acts of 1898, section 2. All settlements not fully acquired subsequent to the first day of May in the year 1860 are hereby defeated and lost. All persons absent from the Commonwealth of Massachusetts for ten years in succession shall lose their settlement. The law of 1898 contains twelve modes for gaining settlements.

Chapter 213, Acts of 1902, gave boards of health full responsibility in regard to persons infected with diseases dangerous to the public health to the exclusion of the Overseers of the Poor, and notice to be the same as in the case of the Overseers of the Poor. See chapter 91, Acts of 1927.

Settlement laws were revised in 1911 and provided six modes for gaining settlements.

Chapter 116, General Laws, 1921, is the latest revision of the Settlement Laws in Massachusetts, amended by chapter 177 of 1922, chapter 479 of 1922, chapter 187 of 1925, and chapter 292 of 1926, as well as the following additions:

Chapter 460, Acts of 1924 — Relative to the support of inmates in state sanatoria.

Chapter 500, Acts of 1924 — Relative to contracts for supplying hospital facilities to persons suffering from tuberculosis.

Chapter 240, Acts of 1926 — Relative to the approval and payment of accounts against the Commonwealth.

Chapter 91, Acts of 1927 — Relative to the collection from the city or town of settlement of claims for expenses incurred in caring for persons sick with diseases dangerous to the public health.

. . . . . .

Other statutes pertaining to aid and support:

Chapter 188, Acts of 1881 — Nonpauperization by support in public institutions.

Chapter 113, Acts of 1882 — Recovery by towns from relatives of ability.

Chapter 210, Acts of 1884,— Punishment for nonsupport.

Chapter 150, Acts of 1886 —No person shall be ineligible for the office of Overseer of the Poor by reason of sex.

Chapter 401, Acts of 1887 — Placing-out of children by Board of State Charities.

Chapter 233, Acts of 1903 — Removal of sick paupers to the State Hospital.

Chapter 629, Acts of 1908 — Expenses for the support of epileptic and feeble-minded to be borne by the state.

(Paper read by William H. Hardy, former Secretary of the Department of Public Welfare, Boston, at a meeting of the Massachusetts Association of Boards of Health, January 26, 1928.)

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## OF WHAT USE ARE HEALTH OFFICIALS?

That the local health officer must be the center of community health work and that he must have protection against malicious political interference are pointed out in an editorial appearing in the March issue of "The American Journal of Public Health and the Nation's Health."

"Of What Use Are Our Health Officials?" is the title of the editorial. A clear, comprehensive résumé of the accomplishments for the improvement of public health conditions since the mid-nineteenth century answers the question. Always the undertaking, whether it be isolating disease, warring against infectious diseases, protecting water supplies and campaigning for pure food, especially milk, has pivoted on the efforts of the health officer, local or state, and his department.

In part the editorial brings out the following facts:

Health officials have established and popularized the diagnostic laboratory which has been of inestimable benefit to the public and to the medical profession. They have been pioneers in the production and distribution of biological products, such as diphtheria antitoxin. To them we give credit for stamping out the old time epidemics, cutting the general death rate in two, and reducing a number of specific death rates. Under their guidance prenatal and infant welfare clinics, and tuberculosis and venereal disease clinics have done outstanding work in preventive medicine. They have done their share to improve medical licensure by exposing quacks and fighting nostrums. They have given aid in the development of voluntary health agencies. Dissemination of health education directed by them through the many modern channels has brought public health and prevention of disease into the fore with other timely and more spectacular topics.

## SURVEY OF THE QUALITY OF BOSTON MARKET MILK.

The following is the result of a survey made of market milk sold in Boston by dealers and chain stores during February, 1928. In Massachusetts the statute law requires a minimum of 12 per cent solids and 3.35 per cent butter fat; for bacteria it is required that it contain not more than 100,000 per cubic centimeter.

| Name of Dealer. | Solids. | Fat. | Bacteria. Thousands in One Cubic Centimeter. |
|---|---|---|---|
| | Per Cent. | Per Cent. | |
| Allen, Fred H. | 12.44 | 3.70 | 28 |
| Antetomasso, Peter | 13.12 | 4.00 | 20 |
| Barron, C. W. | 13.92 | 4.90 | 10 |
| Bergmann, J. H. | 12.68 | 3.97 | 25 |
| Bolio, William | 12.91 | 4.20 | 21 |
| Brandley, F. J. and P. J. | 12.69 | 3.98 | 15 |
| Casey, James | 12.44 | 3.95 | 20 |
| Cashin, James | 12.37 | 3.83 | 29 |
| Cedar Hill | 13.21 | 4.40 | 36 |
| Chapin, George | 12.58 | 3.90 | 19 |
| Clapp, Frank L. | 12.72 | 3.55 | 20 |
| Clark, Levi | 12.16 | 3.68 | 26 |
| Coleman, David | 12.29 | 3.70 | 366 |
| Converse, M. M. | 12.88 | 3.83 | 13 |
| Corkery, J. J. | 12.59 | 3.90 | 74 |
| Cosgrove, Martin S. | 12.64 | 3.73 | 17 |
| Cummings, F. S. | 12.38 | 3.77 | 17 |
| Cunningham, Paul | 12.81 | 4.08 | 32 |
| Dean, Louis W. | 13.06 | 4.13 | 22 |
| Deerfoot Farm | 12.70 | 4.04 | 74 |
| Denehy, Timothy | 12.80 | 4.43 | 50 |
| Driscoll, William B., Company | 12.59 | 3.85 | 27 |
| Edgerly, Frank S. | 13.01 | 4.10 | 231 |
| Elm Spring Farm | 12.37 | 3.82 | 38 |
| Ferguson, M. D. | 12.68 | 3.78 | 42 |
| Garfield, Mason | 15.50 | 5.88 | 46 |
| Garvin, C. E. | 15.01 | 5.55 | 22 |
| Giroux, J. E. and H. J. | 12.37 | 3.75 | 91 |
| Griffin, Joseph L. | 12.60 | 3.73 | 19 |
| Gushee, C. W. | 12.57 | 3.90 | 15 |
| Herlihy Brothers | 12.35 | 3.68 | 62 |
| Hickey, M. J. | 12.43 | 3.78 | 16 |
| Holden, John E. | 12.49 | 3.80 | 56 |
| Hood, H. P., & Son | 12.67 | 3.98 | 23 |

| Name of Dealer. | Solids. | Fat. | Bacteria. Thousands in One Cubic Centimeter. |
|---|---|---|---|
| | Per Cent. | Per Cent. | |
| Hutchinson, F. T. | 12.24 | 3.70 | 21 |
| Jones, William T., Company | 12.63 | 3.98 | 18 |
| Kendall Brothers | 12.24 | 3.65 | 37 |
| Kingston, Samuel | 12.81 | 3.93 | 25 |
| Knapp, George J. | 12.89 | 4.33 | 42 |
| Lang Brothers | 12.39 | 3.75 | 82 |
| Larson, Charles | 13.50 | 5.08 | 29 |
| LeBaron, Frederick * | 13.15 | 4.18 | 7 |
| Lincoln Farms | 12.00 | 3.68 | 846 |
| Lyndonville Creamery | 12.89 | 4.00 | 76 |
| Manning, Peter | 12.55 | 3.72 | 223 |
| McAdams, J. F. | 12.89 | 3.88 | 19 |
| McKernon, James | 12.32 | 3.78 | 32 |
| Munchback, George | 12.69 | 3.98 | 44 |
| New England Creamery Products Company | 12.63 | 3.94 | 16 |
| Pope, Frank H. | 12.69 | 4.05 | 22 |
| Pine Grove Farm | 12.40 | 3.93 | 37 |
| Robinson, A. J. | 13.20 | 4.43 | 44 |
| Schuster, Adam | 12.87 | 3.93 | 22 |
| Seven Oaks | 12.65 | 3.78 | 18 |
| Shick, Jacob | 12.63 | 3.85 | 24 |
| Somerset Farms | 13.10 | 4.20 | 6 |
| Sterling Farms Milk Company | 12.30 | 3.60 | 20 |
| Stone, H. L. | 12.35 | 3.75 | 16 |
| Stuart, W. E. | 12.93 | 4.17 | 15 |
| Turner Centre System | 12.42 | 3.77 | 28 |
| United Farmers Co-operative Creamery Company | 13.08 | 4.10 | 17 |
| Upland Farms, Inc. | 12.21 | 3.73 | 11 |
| Vartanian, S. | 12.30 | 3.70 | 415 |
| Vartanian, K. | 12.35 | 3.70 | 68 |
| Walker-Gordon | 12.96 | 4.15 | 7 |
| Weiller, E., & Sons | 13.08 | 4.30 | 37 |
| Westwood Farms | 12.58 | 3.80 | 15 |
| White Brothers | 12.62 | 3.93 | 19 |
| Whiting Milk Companies | 12.36 | 3.75 | 29 |
| Whittemore, W. D. | 12.68 | 3.85 | 20 |
| Wiswall, George A. | 12.45 | 3.93 | 15 |
| Charles L. Woodland | 12.71 | 4.33 | 13 |

* Through typographical error the January, 1928, survey showed the fat content of Frederick LeBaron's milk as 3.64; the correct value was 6.34.

## CHAIN STORE MILK.

| Name of Dealer. | Supplied by | Solids. Per Cent. | Fat. Per Cent. | Bacteria. Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| The Great Atlantic & Pacific Tea Company. | Hood & Sons | 12.43 | 3.87 | 41 |
| Brown, M., & Sons | Whiting Companies | 12.27 | 3.75 | 18 |
| Cloverdale Company | Turner Centre System | 12.45 | 3.70 | 22 |
| Economy Grocery Stores | Whiting Companies | 12.07 | 3.58 | 25 |
| First National Stores, Inc. | Bellows Falls Co-operative Creamery. | 12.56 | 3.90 | 18 |
| Morgan Brothers Company | Morgan Brothers | 12.63 | 4.00 | 48 |
| Winer, M. | Hyman Winer | 12.98 | 4.15 | 42 |

## SUMMARY OF THE WORK, FEBRUARY, 1928.

### BUREAU OF ADMINISTRATION.

| | | | |
|---|---|---|---|
| Prosecutions ordered | 7 | Personnel: | |
| Legal notices | 95 | Resignation | 1 |
| Lying-in Hospital approved | 2 | Appointments, provisional | 2 |

### LICENSES, PERMITS, ETC., ISSUED.

| | | | |
|---|---|---|---|
| Burial permits | 1,140 | Hen licenses | 6 |
| Day nurseries licensed | 6 | Manicure-massage | 44 |
| Day nurseries disapproved | 1 | Milk | 137 |
| Denatured alcohol | 14 | Offensive trades | 10 |
| Dump approved | 8 | Pedlers | 28 |
| Ice cream | 1 | Stable permit, temporary | 1 |

## MEDICAL DIVISION.

| | | | |
|---|---|---|---|
| Visits: | | Cases brought to Boston for treatment | 132 |
| By medical inspectors | 1,140 | Deaths investigated | 12 |
| By veterinarian | 185 | | |
| By investigator | 294 | | |

### NURSING SERVICE.

| | | |
|---|---|---|
| Homes Visited | | 17,113 |
| Child Hygiene: | | |
| Visits to old cases | 1,178 | |
| Visits to new cases | 6,883 | |
| Total | | * 8,061 |

* Includes 85 wrong addresses; 755 not seen; 840 absent visits.

| | | |
|---|---|---|
| COMMUNICABLE DISEASES: | | |
| Visits to old cases | 6,351 | |
| Visits to new cases | 3,045 | |
| Total | | † 9,396 |
| TUBERCULOSIS: | | |
| Visits to old cases | 2,954 | |
| Visits to new cases | 248 | |
| Total | | ‡ 3,202 |
| MISCELLANEOUS VISITS: | | |
| Infant death investigations | 87 | |
| Maternal death investigations | 2 | |
| Visits to day nurseries | 22 | |
| Visits to parochial schools | 61 | |
| Posture visits | 25 | |
| Other special visits | 5 | |
| Total | | 202 |
| Total number of visits | | 20,861 |
| Hours in station by nurses | | 3,015½ |
| Hours in baby conferences | | 1,631 |
| Hours in tuberculosis clinics | | 733 |
| Hours in posture clinics | | 107¾ |
| Hours in parochial schools | | 86 |
| Hours in nurses conferences | | 582 |
| Total number of hours | | 6,155¼ |

## HEALTH UNITS.

| | |
|---|---|
| MISCELLANEOUS UNIT ACTIVITIES: | |
| Complaint of insanitary conditions | 21 |
| Number of persons given health and other information | 1,861 |
| City visitors | 44 |
| Out of city visitors | 1 |
| DENTAL SERVICE: | |
| Number of children's teeth cleaned | 311 |
| Number of children treated | 2,048 |
| Prophylaxis | 4,525 |
| EYE SERVICE: | |
| New cases | 20 |
| Number of refractions | 55 |
| Number of glasses prescribed | 27 |
| Number of examinations for diagnosis | 34 |

† Includes 83 wrong addresses; 166 not seen; 249 absent visits; 137 ophthalmia.

‡ Includes 31 wrong addresses; 341 not seen; 372 absent visits; 1,372 positive cases; 946 contact cases; 512 suspects.

Child Hygiene Division:

| | |
|---|---|
| Number of child health conferences | 28 |
| Total attendance at conferences | 1,033 |
| New babies at conferences | 111 |
| New preschool age children at conferences | 10 |
| Vaccinations performed | 43 |
| Vaccination certificates issued | 67 |
| Number of posture clinics | 24 |
| Total attendance at posture clinics | 610 |
| Toxin-antitoxin administrations | 14 |
| Examined for day nurseries | 168 |

Tuberculosis Clinics:

| | |
|---|---|
| Number of clinics | 43 |
| Attendance at tuberculosis clinics | 732 |
| New cases | 133 |
| X-ray examinations | 188 |

Nursing Service:

| | |
|---|---|
| Homes visited by nurses | 4,890 |
| Total visits to babies and preschool children | 2,811 |
| Total communicable disease visits | 1,410 |
| Total tuberculosis visits | 1,402 |
| Infant death investigation | 17 |
| Special visits | 5 |
| Alpine lamp treatments | 132 |

Boston Lying-in Hospital:

Pre-natal Clinic:

| | |
|---|---|
| Number of clinics | 12 |
| Attendance | 207 |
| New cases | 65 |

Community Health Association:

General Division:

| | |
|---|---|
| Home visits by nurses | 9,117 |

Boston Dispensary:

| | |
|---|---|
| Calls by district physician | 204 |

State Department of Mental Diseases:

| | |
|---|---|
| Number of clinics | 8 |
| Attendance at clinics | 34 |
| Visits of workers | 93 |
| New cases | 7 |

Infantile Clinic of Children's Hospital:

| | |
|---|---|
| Number of clinics | 8 |
| Attendance | 72 |
| New cases | 2 |

# FOOD INSPECTION DIVISION.

## MARKET, STORE AND RESTAURANT SERVICE.

| | |
|---|---|
| Stores inspected | 4,934 |
| Sanitary defects remedied | 194 |
| Complaints at office | 28 |
| Referred to Sanitary Division | 15 |
| Milk applicants | 43 |
| Notices to abate nuisances | 126 |
| Court cases | 6 |
| Convictions | 4 |
| Fines | $100 |
| Continued | 1 |
| Discharged | 1 |
| Applications for pedlers' licenses approved | 27 |
| Vehicles inspected and approved | 476 |
| Laboratory Examinations: | |
| Bacteriological | 2 |
| Chemical | 3 |

### CONDEMNATIONS.

| | |
|---|---|
| Meats: | |
| Beef | 1,638 pounds |
| Chicken | 4 pounds |
| Fowl | 12 pounds |
| Frankfurts | 15 pounds |
| Liver | 14½ pounds |
| Mince meat | 20 pounds |
| Miscellaneous meat, | 150 pounds |
| Pluck | 1 |
| Pork | 105½ pounds |
| Poultry | 177 pounds |
| Spare ribs | 90 pounds |
| Sweetbread | 1 |
| Sausage | 1 pound |
| Turkey | 193 pounds |
| Vegetables: | |
| Beans | 3 cases |
| Beans | 10 pounde |
| Onions | 15,300 pounds |
| Tomatoes | 446 crates |
| Peas | 4 pounds |
| Turnips | 31,100 pounds |

| | |
|---|---|
| Miscellaneous: | |
| Apricots | 85 pounds |
| Cherries | 36 cases |
| Loganberries | 13 cases |
| Prunes | 215 pounds |
| Raspberries | 15 boxes |
| Candy | 60 pounds |
| Corn meal | 75 pounds |
| Flour | 20 pounds |
| Macaroni | 180 pounds |
| Matzoth | 3 pounds |
| Marmalade | 7 cases |
| Molasses | 5 quarts |
| Nuts | 10 pounds |
| Peanut butter | 1 case |
| Salt | 25 pounds |
| Spaghetti | 104 pounds |
| Tapioca | 5 pounds |
| Tea | 2 pounds |

## LIVE STOCK INSPECTION (Brighton Abattoir).

| | |
|---|---|
| Cattle inspected | 3,699 |
| Calves inspected | 5,550 |
| Swine inspected | 5,761 |
| Parts condemned (lbs.) | 13,672 |
| Animals condemned | 82 |

## DAIRY DIVISION.

| | | | |
|---|---|---|---|
| Total inspection | 1,388 | Total cattle inspected | 5,072 |
| Dairies inspected | 343 | Inspections of milk plants and licensed dealers | 208 |
| Scoring above 50 * | 276 | Bacteriological examinations | 25 |
| Scoring below | 67 | Country creamery inspections | 24 |
| With milk rooms | 275 | Sediment tests | 759 |
| Without milk rooms | 68 | | |
| Inactive | 21 | | |

## BUREAU OF MILK INSPECTION.

### SAMPLES EXAMINED.

| | |
|---|---|
| CHEMICAL: | |
| Milk from wagons | 227 |
| Milk from stores | 1,067 |
| Milk brought by citizens | 9 |
| Vinegar | 94 |
| Scallops | 1 |
| Crab meat | 1 |
| Spice | 1 |
| Soft drink | 1 |
| Water | 1 |
| Miscellaneous | 3 |
| Bottles and caps | 14 |
| BACTERIOLOGICAL: | |
| Milk | 573 |
| Ice cream | 88 |
| Court cases | 6 |
| Fines | $120 |

## SANITARY INSPECTION.

| | | | |
|---|---|---|---|
| Original inspections | 1,758 | Complaints investigated | 421 |
| Reinspections | 5,327 | Court cases authorized | 6 |
| Nuisances abated | 3,870 | Fines paid | $20 |
| Legal notices served | 93 | | |

## BACTERIOLOGICAL LABORATORY.

| | |
|---|---|
| Diphtheria | 920 |
| Tuberculosis | 412 |
| Typhoid | 38 |
| Gonorrhea | 766 |
| Gonorrheal ophthalmia | 65 |
| Syphilis | 979 |
| Other examinations † | 260 |
| Bacteriological examinations of milk | 573 |
| Bacteriological examinations of ice cream | 88 |

* Passable mark.

† Malaria, 1; feces for typhoid, 16; urine for typhoid, 14; genito-urinary tuberculosis, 12; beef liver for T. B., 1; dog's head for rabies, 1; smears for Vincent's angina, 10; water for pollution, 4; stools for amœbic dysentery, 1; coffee for animal experimentation, 1; blood for differential count, 1; feces for parasites, 1; smear from appendix for organisms, 1; pus from urine for T. B., 1; pus from urine for gonorrhea, 1; urine specimens examined, 194:

## MONTHLY REPORT OF VENEREAL DISEASE ACTIVITIES, FEBRUARY, 1928.

### SYPHILIS.

| | |
|---|---|
| Current cases under investigation February 1, 1928 | 24 |
| New cases during February | 15 |
| Total | 39 |

#### Disposition of Cases.

| | |
|---|---|
| Placed under treatment | 8 |
| False address | 4 |
| Unable to locate | 5 |
| Under investigation March 1 | 22 |
| Total | 39 |
| New cases reported by number | 69 |

### GONORRHEA.

| | |
|---|---|
| Current cases under investigation February 1, 1928 | 61 |
| New cases during February | 42 |
| Total | 103 |

#### Disposition of Cases.

| | |
|---|---|
| Placed under treatment | 23 |
| False address | 7 |
| Unable to locate | 25 |
| No evidence of disease | 1 |
| Moved out of town | 3 |
| Under investigation March 1 | 44 |
| Total | 103 |
| New cases reported by number | 197 |

### SUMMARY.

| | |
|---|---|
| Current cases under investigation February 1 | 85 |
| New cases during February | 57 |
| Total | 142 |

#### Disposition of Cases.

| | |
|---|---|
| Placed under treatment | 31 |
| False address | 11 |
| Unable to locate | 30 |
| No evidence of disease | 1 |
| Moved out of town | 3 |
| Under investigation March 1 | 66 |
| Total | 142 |
| Visits by venereal investigator | 294 |

### COMPLAINTS AND SOURCES OF INVESTIGATION.

| | |
|---|---|
| Placed under treatment | 5 |
| Free from disease | 1 |
| Moved out of town | 1 |

## REPORT OF TUBERCULOSIS DIVISION, FEBRUARY, 1928.

In the month of February, there were 95 clinic sessions held in the nine clinics:

Distribution of clinics was as follows:

| | |
|---|---|
| At the South End Health Unit | 17 |
| At the East Boston Health Unit | 12 |
| At the North End Health Unit | 12 |
| At the West End Health Unit | 12 |
| At the South Boston Health Unit | 8 |
| At the Brighton Health Unit | 8 |
| At the Charlestown Health Unit | 8 |
| At the Codman Square Health Unit | 8 |
| At the Hyde Park Health Unit | 10 |
| Total | 95 |

| Districts. | Total Number Cases at Clinics. | | | Total Number of New Cases at Clinics. | | |
|---|---|---|---|---|---|---|
| | Adult. | Children. | Total. | Adult. | Children. | Total. |
| South End | 198 | 152 | 350 | 42 | 40 | 82 |
| North End | 74 | 140 | 214 | 6 | 17 | 23 |
| East Boston | 116 | 188 | 304 | 20 | 29 | 49 |
| West End | 49 | 53 | 102 | 3 | 6 | 9 |
| South Boston | 69 | 73 | 142 * | 15 | 19 | 34 |
| Brighton | 15 | 6 | 21 | 2 | — | 2 |
| Charlestown | 35 | 42 | 77 | 8 | 10 | 18 |
| Codman square | 70 | 40 | 110 | 24 | 25 | 49 |
| Hyde Park | 16 | 20 | 36 | 4 | 1 | 5 |
| Totals | 642 | 714 | 1,356 † | 124 | 147 | 271 |

* Plus 33 X-ray cases, 175. † Plus 33 X-ray cases, 1,389.

| Districts. | Von Pirquet. | Wasserman. | Lamp. | X-Ray. |
|---|---|---|---|---|
| South End | 26 | 10 | 103 | 150 |
| North End | 31 | 4 | 81 | 69 |
| East Boston | 37 | 4 | 177 | 58 |
| West End | 16 | — | — | 22 |
| South Boston | 30 | 6 | 114 | 39 |
| Brighton | — | 1 | — | 6 |
| Charlestown | 17 | 3 | — | 27 |
| Codman square | 11 | 6 | — | — |
| Hyde Park | 4 | 4 | — | 5 |
| Totals | 172 | 38 | 475 | 376 |

## TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING FEBRUARY, 1928.

| Classification. | Number. | Percentage. |
|---|---|---|
| After death | 10 | 22.73 |
| Seven days or less | 2 | 4.54 |
| Eight to fourteen days, inclusive | 3 | 6.82 |
| Fifteen to twenty-one days, inclusive | — | — |
| Twenty-two to thirty-one days, inclusive | — | — |
| Within First Month. (Total) | 15 | 34.09 |
| Within second month | 3 | 6.82 |
| Within third month | 1 | 2.27 |
| Within fourth month | 3 | 6.82 |
| Within fifth month | 1 | 2.27 |
| Within sixth month | — | — |
| Within seventh month | 1 | 2.27 |
| Within eighth month | — | — |
| Within ninth month | — | — |
| Within tenth month | 2 | 4.54 |
| Within eleventh month | 1 | 2.27 |
| Within twelfth month | 1 | 2.27 |
| Within First Year Preceding Death. (Total) | 28 | 63.62 |
| Within second year | 5 | 11.36 |
| Within third year | 1 | 2.27 |
| More than three years | 10 | 22.73 |
| Grand totals | 44 | 99.98 |

# CHILD HYGIENE DIVISION.

## REPORT OF ACTIVITIES OF MEDICAL INSPECTORS FEBRUARY, 1928.

| | |
|---|---|
| Inspections | 452 |
| Physical examinations | 12 |
| Toxin-antitoxin administrations | 3,026 |
| Vaccinations | 30 |
| Vaccination certificates issued | 39 |
| Anti-typhoid innoculations | 1 |
| Day nurseries, visits to | 49 |
| Parochial school visits | 63 |
| Conferences | 1 |

# REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES FOR FEBRUARY, 1928.

| Station. | Toxin–Antitoxin. | | | | Number of Vaccinations. |
|---|---|---|---|---|---|
| | First. | Second. | Third. | Total. | |
| Old Town Hall, Brighton | — | 2 | 3 | 5 | 1 |
| 31 Lincoln street, Brighton | — | — | — | — | 1 |
| Charlestown Municipal Building | 1 | 11 | 1 | 13 | 13 |
| Codman Square Library | 9 | 5 | 8 | 22 | 7 |
| Columbia Road Municipal Building | 6 | 3 | 3 | 12 | 12 |
| 1 Arcadia street, Dorchester | — | — | — | — | 1 |
| East Boston Health Unit | — | — | — | — | — |
| Hyde Park Municipal Building | — | — | 1 | 1 | 1 |
| Curtis Hall, Jamaica Plain | 3 | 2 | 3 | 8 | — |
| 41 North Margin street | 1 | 2 | 3 | 6 | — |
| Roslindale Municipal Building | 2 | 2 | — | 4 | 21 |
| Beth Israel Hospital | 2 | 4 | 5 | 11 | 2 |
| Children's Hospital | — | — | — | — | 1 |
| 1049 Columbus avenue | 2 | 3 | 3 | 8 | 10 |
| Vine Street Municipal Building | 3 | 5 | 6 | 14 | 8 |
| 133 Dorchester street, South Boston | 2 | 5 | 3 | 10 | 4 |
| 57 East Concord street | 5 | 3 | 2 | 10 | — |
| Shawmut Avenue Municipal Building | 6 | 1 | 4 | 11 | 1 |
| 122 Tyler street | 7 | 10 | 4 | 21 | — |
| 17 Blossom street | — | — | — | — | — |
| Totals | 49 | 58 | 49 | 156 | 83 |

# MONTHLY REPORT OF CHILD HEALTH CONFERENCES FEBRUARY, 1928.

| Station. | Number of Babies. | Number of Pre-school. | Total Attendance. | Number of New Babies. | Number of New Preschool. | Total New Cases. | Number of Conferences. | Average Attendance. |
|---|---|---|---|---|---|---|---|---|
| Old Town Hall, Brighton | 153 | 15 | 168 | 13 | 1 | 14 | 4 | 42 |
| 31 Lincoln street, Brighton | 33 | 9 | 42 | 3 | — | 3 | 4 | 11 |
| Charlestown Municipal Building | 213 | 25 | 238 | 26 | — | 26 | 8 | 30 |
| Codman Square Library | 298 | 40 | 338 | 42 | 6 | 48 | 8 | 42 |
| Columbia Road Municipal Building | 415 | 5 | 420 | 47 | — | 47 | 8 | 53 |
| 1 Arcadia street, Dorchester | 219 | 9 | 228 | 24 | — | 24 | 8 | 29 |
| East Boston Health Unit | 292 | 34 | 326 | 52 | 5 | 57 | 8 | 41 |
| Hyde Park Municipal Building | 105 | 5 | 110 | 16 | — | 16 | 4 | 28 |
| Curtis Hall, Jamaica Plain | 156 | 13 | 169 | 24 | 3 | 27 | 4 | 42 |
| 41 North Margin street | 145 | 49 | 194 | 17 | — | 17 | 8 | 24 |
| Roslindale Municipal Building | 224 | 37 | 261 | 18 | 3 | 21 | 4 | 65 |
| Beth Israel Hospital | 114 | 10 | 124 | 13 | — | 13 | 4 | 31 |
| Children's Hospital | 84 | 8 | 92 | 15 | — | 15 | 4 | 23 |
| 1049 Columbus avenue | 217 | 18 | 235 | 34 | 3 | 37 | 8 | 29 |
| Vine Street Municipal Building | 226 | 10 | 236 | 28 | 1 | 29 | 8 | 30 |
| 133 Dorchester street, South Boston | 255 | 40 | 295 | 41 | 6 | 47 | 8 | 37 |
| 57 East Concord street | 91 | 12 | 103 | 11 | — | 11 | 4 | 26 |
| Shawmut Avenue Municipal Building, | 81 | 20 | 101 | 11 | 2 | 13 | 4 | 23 |
| 122 Tyler street | 79 | 8 | 87 | 11 | 1 | 12 | 4 | 22 |
| 17 Blossom street | 327 | 55 | 382 | 24 | 2 | 26 | 8 | 48 |
| Totals | 3,727 | 422 | 4,149 | 470 | 33 | 503 | 120 | 34 |

# VITAL STATISTICS, FEBRUARY 1928.

## BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING FEBRUARY, 1928, WITH COMPARATIVE FIGURES FOR FEBRUARY, 1927.

| | BIRTHS AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **All Causes:** | | | | | | |
| Total deaths | 1,018 | 978 | +40 | 15.28 | 14.80 | +48 |
| Nonresidents deducted | 842 | 813 | +29 | 12.64 | 12.30 | +.34 |
| **By Age:** | | | | | | |
| Under one year | 124 | 125 | —1 | 1.86 | 1.89 | —.03 |
| One year to four years, inclusive | 52 | 43 | +9 | .78 | .65 | +.13 |
| Sixty years and over | 417 | 368 | +49 | 6.26 | 5.57 | +.69 |
| **By Special Causes:** | | | | | | |
| Degenerative Diseases, So Called: | | | | | | |
| Apoplexy | 56 | 57 | —1 | .84 | .86 | —.02 |
| Arteriosclerosis | 23 | 28 | —5 | .34 | .42 | —.08 |
| Heart disease | 223 | 186 | +37 | 3.35 | 2.81 | +.54 |
| Nephritis, chronic | 56 | 65 | —9 | .84 | .98 | —.14 |
| Infant and Maternal Mortality: | | | | | | |
| *a.* Total registered live births | 1,097 | 1,141 | —44 | 16.47 | 17.27 | —.80 |
| *b.* Registered stillbirths | 37 | 39 | —2 | .55 | .59 | —.04 |
| Stillbirths per 1,000 births and stillbirths | — | — | — | 32.63 | 33.05 | —.42 |
| *c.* Deaths of mothers from causes incident to childbirth | 9 | 10 | —1 | .13 | .15 | —.02 |
| Deaths of mothers per 1,000 births and stillbirths | — | — | — | 7.94 | 8.47 | —.53 |
| Deaths of children in first year of life | 124 | 125 | —1 | 1.86 | 1.89 | —.03 |
| Deaths in first year per 1,000 live births | — | — | — | 113.03 | 109.55 | —3.48 |
| Violence: | | | | | | |
| Accidents | 59 | 45 | +14 | .88 | .68 | +.20 |
| Homicides | 1 | — | +1 | .015 | — | +.015 |
| Suicides | 5 | 8 | —3 | .07 | .12 | —.05 |
| Miscellaneous: | | | | | | |
| Alcoholism, acute or chronic | 7 | 11 | —4 | .10 | .17 | —.07 |
| Broncho-pneumonia | 60 | 66 | —6 | .90 | 1.00 | —.10 |
| Cancer | 100 | 97 | +3 | 1.50 | 1.47 | +.03 |
| Cirrhosis of the liver | 6 | 1 | +5 | .09 | .015 | +.075 |
| Diabetes mellitus | 14 | 18 | —4 | .21 | .27 | —.06 |
| Diarrheal diseases, children under two years of age | 8 | 3 | +5 | .12 | .04 | +.08 |

| | CASES AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **Communicable Diseases:** | | | | | | |
| Anterior poliomyelitis.....Cases.. | 5 | — | +5 | .07 | — | +.07 |
| Deaths. | — | — | — | — | — | — |
| Cerebrospinal meningitis.....Cases.. | 2 | 2 | — | .03 | .03 | — |
| Deaths. | 2 | 1 | +1 | .03 | .015 | +.015 |
| Diphtheria.....Cases.. | 96 | 153 | —57 | 1.44 | 2.31 | —.87 |
| Deaths. | 10 | 7 | +3 | .15 | .10 | +.05 |
| Influenza.....Cases.. | 18 | 24 | —6 | .27 | .36 | —.09 |
| Deaths. | 4 | 4 | — | .06 | .06 | — |
| Measles.....Cases.. | 2,214 | 179 | +2,035 | 33.24 | 2.71 | +30.53 |
| Deaths. | 8 | 1 | +7 | .12 | .015 | +.105 |
| Pneumonia (lobar).....Cases.. | 240 | 136 | +104 | 3.60 | 2.06 | +1.54 |
| Deaths. | 66 | 56 | +10 | .99 | .85 | +.14 |
| Scarlet fever.....Cases.. | 343 | 566 | —223 | 5.15 | 8.56 | —3.41 |
| Deaths. | 5 | 12 | —7 | .07 | .18 | —.11 |
| Tuberculosis (pulmonary).....Cases.. | 117 | 128 | —11 | 1.76 | 1.94 | —.18 |
| Deaths. | 44 | 60 | —16 | .66 | .91 | —.25 |
| Tuberculosis (other forms).....Cases.. | 30 | 29 | +1 | .45 | .44 | +.01 |
| Deaths. | 10 | 5 | +5 | .15 | .07 | +.08 |
| Typhoid fever.....Cases.. | 3 | 5 | —2 | .04 | .07 | —.03 |
| Deaths. | — | — | — | — | — | — |
| Whooping cough.....Cases.. | 300 | 93 | +207 | 4.50 | 1.41 | +3.09 |
| Deaths. | 5 | 3 | +2 | .07 | .04 | +.03 |

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births, per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1928 (mid-year), based upon the federal census of 1920, has been used.

**DO NOT DESTROY.**

When you have no further use for this Circular give it to someone else.

## TEN RULES FOR HEALTHFUL LIVING.

Do you want to be healthy?

By following these rules most everyone can become and remain healthy:

1. Food—Milk, a quart a day for children; cereals; vegetables every day, including leafy ones such as lettuce, spinach, beet tops, to get the necessary vitamines; fruits every day; eggs; meat in moderation; sweets in moderation; 8 glasses of water a day.
2. Posture—Stand and sit straight; stand tall, keep head up, chin in, chest out, abdomen in, back straight, shoulders back; walk largely on balls of feet, with feet straight—not turned out.
3. Exercise—Enough every day to sweat freely. Walk 3 miles a day if you can't do anything better. Play in the open air.
4. Rest—When tired. Never eat a hearty meal when tired. Sleep at least 8 hours with bedroom windows open.
5. Mouth—Brush the teeth after meals and at bedtime. Keep the mouth clean. Salt and water is a good mouth wash.
6. Bowels—At least one good movement a day, preferably after breakfast. Many a headachy, ailing individual owes his trouble to constipation. Coarse cereals, vegetables, fruits like apples, prunes, etc., and plenty of water will usually ward off constipation. Don't use drugs.
7. Baths—A cold bath every day if it makes you feel good, otherwise a tepid bath; a warm cleansing bath once a week.
8. Clothing—Suitable to the season: it should not be too heavy.
9. Communicable Disease—Practise good health habits; avoid the careless spitter and sneezer, the common drinking cup or towel; eat and drink only clean foods. Keep your fingers away from your mouth.
10. Mental Hygiene—In many ways most important of all. Refuse to worry and hurry. Be calm. Control your emotions.

Be Cheerful. Be Friendly. Be Independent.

Follow Emerson's advice and work with your own hands, stand on your own feet, and think your own thoughts. Thus you will acquire poise, the truest sign of a real man or woman.

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MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH.

1503

MONTHLY BULLETIN

# HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the EDITOR MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

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## ARTIFICIAL IMMUNIZATION AGAINST TUBERCULOSIS.

In the Health Department Bulletin for October, 1926, the results of the experimental work of Calmette and his associates in artificially immunizing animals and human beings against tuberculosis were reviewed.

Among their published conclusions which were quoted in the Bulletin article the following may be cited as embodying the more important features of their claims:

"Subjects free from any pre-existing tuberculous infection can be artificially immunized against natural or experimental tuberculous infections."

"This immunizaton can be obtained by the inoculation or (chiefly in the very young subjects) by the oral absorption of culture emulsions of a living bacillus, from a bovine source, whose characteristics have been slowly and hereditarily modified by a long series of cultures on a highly alkaline medium, rich in lipoids (ox bile)."

"The immunization of adolescents or adults is possible only in countries where tuberculosis is uncommon, and among sound subjects with a negative tuberculin reaction."

Since the Bulletin article was written, Calmette has continued his experiments, which now practically cover ten years. His results

have attracted widespread attention, but general acceptance of his conclusions has been slow. They have encountered a skepticism on the part of professional bacteriologists which springs from certain hypotheses commonly accepted by them. There has been a reluctance on the part of some persons to entertain the thought that conventional methods for the control of tuberculosis may be ill advised and that the conspicuous and widespread decrease in mortality from tuberculosis may be due to a process of natural immunization rather than to the success in preventing infection.

Others have reported apparent failure to obtain in their application of the Calmette immunizing methods to animals the same favorable results which he appears to have secured. Such unfavorable experiences are cited in support of a belief that the production of immunity to tuberculosis by bovine bacilli attenuated by growth in media containing ox bile may be subject to other qualifications besides that mentioned in Calmette's conclusions quoted above with reference to the immunization of exposed adults.

Calmette's experiments in immunization have included animals as well as human beings, but probably the most interesting feature in his work is his reported success in reducing mortality in children born of tuberculous mothers and kept in infected homes by inoculating such infants early in life with his attenuated bacilli. The reduction secured by him would appear to be from a usual mortality of more than 25 per cent to less than 2 per cent for the inoculated infants.

Doctor Calmette's experiments were conducted in Paris. Among other cities in which similar experiments are now being made are Montreal and New York.

In a communication published in the March, 1928, Child Health Bulletin of the American Public Health Association, Dr. William H. Park writes as follows regarding the New York City experience:

"We decided that we would take only babies from tuberculous families and that we would take at least an equal number of similar infants which received no treatment. These two groups of babies would be followed up with the same care.

"It is now just a year since the first infant was fed the vaccine. We have now fifty infants under observation who have received the treatment and about twice as many who are acting as controls. In none of the treated babies has any harmful effects been noticed, and none of them has died from tuberculosis."

"There were four deaths but none of these were due to tuberculosis. In the control cases about 7 per cent have died of tuberculosis."

"All I can say, therefore, is that the vaccination seems to be harmless and that no cases of tuberculosis have developed in those vaccinated."

"I personally have no fear that the attenuated living bacilli might later gain virulence and years afterward do damage. As it is well known that even fully virulent bovine bacilli lose their virulence in older children and adults, it would seem impossible for attenuated bacilli to gain greater virulence. I believe, therefore, that we are justified in making a thorough test, since it has been used so extensively in France with apparently successful results."

What makes Calmette's work especially worthy of attention is that it means progress in a rational effort to control disability and mortality from tuberculosis. Doubtless the Calmette method is not exactly that which Nature uses to produce immunity to active tuberculosis. There is the strongest sort of circumstantial evidence that Nature can and does use living virulent human bacilli for this purpose. Such evidence, however, leaves us very much in doubt whether the difference between a beneficent or a disastrous result is a matter of dosage, or, in other words, is practically determined by luck.

It may be that some day we may be taught that the tubercle bacillus itself is really not so dangerous as at present assumed. It may be shown that we at present are failing to appreciate the extent to which other complicating organisms or "secondary invaders," or, it may be, "primary invaders" are responsible for the destructive processes that cause disability and death. It is certainly to be hoped that some day we may understand better the relation of food, light and climate to the actual causal factor of serious tuberculous infections.

In other respects, also, we are lacking in that definite knowledge which is necessary to enable us to deal with the tuberculosis problem in the most effective way. Nevertheless, there is one fact that experience with tuberculosis as a public health problem is bringing out more clearly every year. It is the utter futility of expecting to eradicate tuberculosis from either men or animals by preventing opportunities for infection. Among men, if not among cattle, the prevention of opportunities for infection are being made increasingly difficult by the mobility of the population, and by the extent to which the tubercle bacilli are disseminated by persons who are not aware that they have any active tuberculosis process as well as by recognized or recognizable cases of active pulmonary infection. Actual examinations of groups of people and confirmatory statistical studies indicate that about 1 per cent of the population in this part

of the country are spitting tubercle bacilli and an additional 1 per cent have demonstrable healed lesions in their lungs.

To judge from the unfortunate consequences of contacts of isolated people with the currents of human activity in the world a community which might succeed in preventing exposure of its inhabitants to infection with the tubercle bacillus should be pitied rather than congratulated.

During the "Framingham Health Demonstration" Von Pirquet tests on 460 children between the ages of one and seven years gave 33.3 per cent positive reactions.

Of the children between the ages of six and seven years 54 per cent were positive. The higher percentages of positives were in the racial and social elements of the population which furnished the lowest ratio of cases of active tuberculosis in the town. Six years later a large proportion of the children who gave positive reactions were subjected to careful physical examination and none showed any indication of tuberculous infection, glandular or otherwise, thus "indicating evidence of active infection practically negligible."

As has also occurred in other fields of endeavor, to conserve human health and life, greater progress has been made in the treatment than in the prevention of tuberculous infection. As the result of success in treatment, a condition which not many years ago was looked on as a death sentence is now popularly regarded as a curable disease.

The most approved treatment, however, too often serves only to postpone a fatal outcome. On the other hand, it is nothing new for a serious tuberculous lesion to heal spontaneously. Autopsies have long shown that such results do occur irrespective of treatment. It is possible to point out individual cases in which death has been prevented by appropriate treatment, and even instances in which the extermination of a family has probably been prevented by limiting the dosage of infecting organisms, but it is questionable whether all the efforts specifically directed toward the detection, treatment and prevention of tuberculous infection have really been appreciable factors in comparison with the process of natural immunization, or with better economic conditions, making possible a better popular diet and better public sanitation, in bringing about the decrease in mortality from tuberculosis now observable on looking back over many decades.

Those who question the efficiency of measures directed specifically to the prevention of tuberculosis are influenced in part by the following facts:

In large groups of population, where no anti-tuberculosis activities have been undertaken and where economic conditions have not

been particularly good, there may be pointed out a decrease in the death rate from tuberculosis virtually the same as in other large groups whose economic conditions have made possible expensive anti-tuberculosis measures.

The tendency of mortality from tuberculosis to decrease has not been uniformly downward. There have been periods when the death rate has temporarily increased. There was a widespread increase in mortality from tuberculosis between 1913 and 1919. It appeared at a time and in places where anti-tuberculosis work had never before been so energetically prosecuted.

Even in the Framingham experiment, where effort was made to reduce the tuberculosis death rate by every device believed to be capable of influencing public health, as well as by measures specifically directed to the detection, treatment and prevention of tuberculous infection, the resulting decrease was not impressive when compared with the decrease which had also occurred during the same five-year period in other comparable towns in the state where no special effort to control tuberculosis had been made.

The margin in favor of Framingham would have been even less if the demonstration had continued a year or two longer. The special care which unfavorable cases of infection received in Framingham resulted in keeping alive, until after the period of the demonstration, a number of persons who would have died sooner and increased the mortality rate for the period of the demonstration but for this care.

Notwithstanding the tendency of mortality from tuberculosis to decrease and thus offer superficial statistical evidence of the efficacy of artificial measures for its control, the economic loss and mortality from tuberculous infections still constitutes one of our most serious public health problems.

Something can doubtless be done to make conventional anti-tuberculosis measures more efficacious than they as yet give evidence of being. Popular conceptions as to the value of some of these measures might even be changed to good advantage. It is not going to tend to check the dissemination of tubercle bacilli or any other dangerous organisms by stopping people from spitting on the floor or ground where such organisms soon tend to lose their dangerous qualities and by so doing force people to deposit infective material in a handkerchief and keep it in a pocket next to the body where warmth and moisture tend to preserve the virulence of harmful bacteria and assure their wide distribution in this condition by the person's hands which are inevitably contaminated in handling the handkerchief.

New methods of stimulating resistance to dangerous tuberculous infections can doubtless be devised. For example, there is a relation between calcium metabolism and serious infections which might be made of practical value if thoroughly understood. In other ways a dietary control of tuberculous infection may be developed. Control may follow a successful attack on complicating organisms. Our great hope, however, of artificially hastening the downward tendency of mortality from tuberculous infection, lies in the discovery of Nature's own secret in producing immunity.

In the application of such a discovery to human beings, there doubtless would be encountered on their part the same attitude with which the practicability of vaccinating against smallpox and typhoid fever is now met. Even if human perversity should prevent the immunization of human beings a discovery which would stop the present destruction of cattle which show a defensive reaction to tuberculous infection would still be of tremendous economic value.

Calmette may not have made a valuable discovery. Reputations for scientific wisdom of a certain sort will probably be enhanced by insisting that he has not. But Calmette is right in his method of approaching the tuberculosis problem. It may be that neither the bovine nor human bacillus will eventually serve as the agent for artificially producing immunity. Possibly somebody will find a way of applying for human and animal protection the principle to which the horse owes its immunity to tuberculosis.

The artificial production of human immunity to dangerous tuberculous infections is not inherently a more difficult problem than some of those that have been solved in connection with the developments in industrial chemistry which have been made by such concerns as the General Electric Company or the DuPont de Nemours under the stimulus of commercial competition during the last ten years. Nor does the discovery of some means of overcoming the parasitic proclivities of the tubercle bacillus seem to offer less hope of success if approached in the right way than that which has rewarded the efforts of the Hawaiian sugar producers to protect their sugar cane from destruction by parasites.

**DO NOT DESTROY.**

When you have no further use for this Circular give it to someone else.

## SURVEY OF THE QUALITY OF BOSTON MARKET MILK.

The following is the result of a survey made of market milk sold in Boston by dealers and chain stores during March, 1928. In Massachusetts the statute law requires a minimum of 12 per cent solids and 3.35 per cent butter fat; for bacteria it is required that it contain not more than 100,000 per cubic centimeter.

| Name of Dealer. | Solids. | Fat. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|
| | Per Cent. | Per Cent. | |
| Allen, Fred H. | 12.47 | 3.83 | 30 |
| Antetomasso, Peter | 13.22 | 4.43 | 16 |
| Barron, C. W. | 13.62 | 4.58 | 9 |
| Bergmann, J. H. | 12.59 | 3.83 | 100 |
| Bolio, William | 13.39 | 4.65 | 17 |
| Brandley, F. J. and P. J. | 12.67 | 3.98 | 29 |
| Casey, James | 12.31 | 3.73 | 28 |
| Cashin, James | 12.51 | 4.00 | 68 |
| Cedar Hill | 13.52 | 4.68 | 17 |
| Chapin, George | 12.88 | 4.13 | 16 |
| Clapp, Frank L. | 12.64 | 3.80 | 16 |
| Clark, Levi | 12.50 | 3.85 | 18 |
| Coleman, David | 11.89 | 3.53 | 18 |
| Converse, M. M. | 12.75 | 4.38 | 32 |
| Corkery, J. J. | 12.39 | 3.80 | 512 |
| Cosgrove, Martin S. | 12.90 | 3.92 | 16 |
| Cummings, F. S. | 12.25 | 3.76 | 18 |
| Cunningham, Paul | 12.33 | 3.62 | 16 |
| Dean, Louis W. | 13.14 | 4.33 | 18 |
| Deerfoot Farm | 12.68 | 4.00 | 15 |
| Denehy, Timothy | 13.13 | 4.40 | 44 |
| Driscoll, William B., Company | 12.63 | 3.85 | 21 |
| Edgerly, Frank S. | 12.79 | 4.00 | 20 |
| Elm Spring Farm | 12.43 | 3.77 | 28 |
| Ferguson, M. D. | 12.56 | 3.63 | 9 |
| Garfield, Mason | 15.62 | 5.88 | 19 |
| Garvin, C. E. | 15.62 | 6.15 | 7 |
| Giroux, J. E. and H. J. | 12.36 | 3.78 | 21 |
| Griffin, Joseph L. | 12.60 | 3.72 | 18 |
| Gushee, C. W. | 12.82 | 3.93 | 228 |
| Herlihy Brothers | 12.35 | 3.76 | 33 |
| Hickey, M. J. | 12.30 | 3.80 | 15 |
| Holden, John E. | 12.36 | 3.75 | 39 |

| Name of Dealer. | Solids. | Fat. | Bacteria. Thousands in One Cubic Centimeter. |
|---|---|---|---|
| | Per Cent. | Per Cent. | |
| Hood, H. P., & Son | 12.43 | 3.86 | 26 |
| Hutchinson, F. T. | 12.30 | 3.70 | 14 |
| Jones, William T., Company | 12.52 | 3.93 | 31 |
| Kendall Brothers | 12.26 | 3.64 | 14 |
| Kingston, Samuel | 12.83 | 3.93 | 18 |
| Knapp, George J. | 13.14 | 4.53 | 89 |
| Lang Brothers | 12.45 | 3.83 | 21 |
| Larson, Charles | 13.26 | 4.90 | 27 |
| LeBaron, Frederick | 13.37 | 4.20 | 62 |
| Lincoln Farms | 12.28 | 3.83 | 15 |
| Lyndonville Creamery | 12.89 | 3.95 | 12 |
| Manning, Peter | 12.63 | 3.81 | 36 |
| McAdams, J. F. | 12.52 | 3.83 | 17 |
| McKernon, James | 12.39 | 3.83 | 28 |
| Munchback, George | 12.53 | 3.93 | 13 |
| New England Creamery Products Company | 12.73 | 4.02 | 33 |
| Pope, Frank H. | 12.48 | 3.90 | 100 |
| Pine Grove Farm | 13.17 | 4.70 | 17 |
| Robinson, A. J. | 13.01 | 4.30 | 15 |
| Schuster, Adam | 12.64 | 3.80 | 16 |
| Seven Oaks | 12.46 | 3.76 | 18 |
| Shick, Jacob | 12.75 | 3.96 | 41 |
| Somerset Farms | 13.09 | 4.15 | 13 |
| Sterling Farms Milk Company | 12.53 | 3.75 | 24 |
| Stone, H. L. | 12.53 | 3.95 | 17 |
| Stuart, W. E. | 12.64 | 4.03 | 20 |
| Turner Centre System | 12.56 | 3.78 | 21 |
| United Farmers Co-operative Creamery Company | 12.67 | 3.97 | 14 |
| Upland Farms, Inc. | 12.42 | 3.80 | 60 |
| Vartanian, K. | 12.26 | 3.73 | 39 |
| Vartanian, S. | 12.42 | 3.78 | 14 |
| Walker-Gordon | 13.01 | 4.25 | 8 |
| Weiller, E., & Sons | 12.77 | 4.07 | 28 |
| Westwood Farms | 12.69 | 3.83 | 18 |
| White Brothers | 12.61 | 3.98 | 21 |
| Whiting Milk Companies | 12.32 | 3.75 | 19 |
| Whittemore, W. D. | 12.74 | 4.05 | 19 |
| Wiswall, George A. | 12.24 | 3.68 | 34 |
| Woodland, Charles L. | 12.70 | 4.08 | 49 |

## CHAIN STORE MILK.

| Name of Dealer. | Supplied by. | Solids. Per Cent. | Fat. Per Cent. | Bacteria. Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| The Great Atlantic & Pacific Tea Company. | Hood & Sons..... | 12.41 | 3.95 | 18 |
| Brown, M., & Sons..... | Whiting Companies..... | 12.31 | 3.77 | 15 |
| Cloverdale Company..... | Turner Centre System..... | 12.60 | 3.94 | 26 |
| Economy Grocery Stores..... | Whiting Companies..... | 12.36 | 3.77 | 15 |
| First National Stores, Inc..... | Bellows Falls Co-operative Creamery. | 12.77 | 4.08 | 22 |
| Morgan Brothers Company..... | Morgan Brothers..... | 12.50 | 3.88 | 51 |
| Winer, M..... | Hyman Winer..... | 12.85 | 4.05 | 20 |

## ADULTERATED OLIVE OIL.

From time to time the attention of the Food Inspection Division is drawn to abuses arising in the sale and distribution of olive oil and so-called "salad oil" which is a much cheaper product. The term "salad oil" is no longer indicative of olive oil, exclusively, so that in the absence of any statement, design or device on the labels, conveying directly or by implication any false or misleading impression concerning the origin or characteristics of the product, no objection will be made to the designation of edible vegetable oils, other than olive oil, as "salad oil," with or without qualification.

There are two classes of adulteration of this product that perhaps need special mention; first, where a product sold and labeled as pure olive oil contains more or less cottonseed oil; and, second, where a product bears on its label the plain words "salad oil," but is nevertheless a violation because it also bears misleading signs and devices. For example, a can which contains nothing but cottonseed oil, or perhaps with a flavoring of olive oil, is labeled rightly enough "salad oil," but in addition the container is almost covered with suggestive pictures of olive trees deeply fruited.

A common process for the sale of cottonseed oil as olive oil is to heat the mixture of olive oil and cottonseed oil to make a suitable blend and than add a green coloring matter. The result is a presentable imitation of olive oil, and this would be particularly true with the addition of olive oil flavor.

The department has secured two convictions in the lower court recently, where oils alleged to be pure olive oil were found to be adulterated. In one case the product was cottonseed oil entirely, and in the other case the product was 25 per cent cottonseed oil.

## CANCER CLINICS IN MASSACHUSETTS.

Lowell: Lowell General Hospital, every Friday at 10 a. m.

Lynn: Lynn Hospital, every Friday at 10 a. m.

Newton: Newton Hospital, every second and fourth Friday at 3 p. m.

Springfield: Mercy Hospital, 4 to 5 p. m.; Springfield Hospital, 4 to 5 p. m.; Wesson Hosptal, 4 to 5 p m. Weekly, in regular rotation.

Worcester: Louis Pasteur Hospital, Mondays, 9 a. m.; Fairlawn Hospital, Tuesdays, 9 a. m.; Memorial Hospital, Tuesdays, 11 a. m.; City Hospital, Wednesdays, 9 a. m.; St. Vincent's Hospital, Thursdays, 9 a. m.; Harvard Hospital, Fridays, 10 a. m.; Hahnemann Hospital, Saturdays, 9 a. m.; Memorial Hospital, Saturdays, 11 a. m.

Wrentham: Pondville Hospital, Thursdays, 1 p. m.

Worcester North: Burbank Hospital, Tuesdays, 11 a. m., April 10, 1928, May 1 and 22, June 12; Leominster Hospital, Tuesdays, 11 a. m., April 17, May 8 and 29, June 19; Henry Heywood Memorial Hospital, Tuesdays, 11 a. m., April 24, May 15, June 5 and 26.

New Bedford: St. Luke's Hospital, Wednesdays, 3 p. m.

Lawrence: Lawrence General Hospital, second and third Tuesdays, 10 a. m.

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## CLINICS IN OR NEAR BOSTON GIVING SPECIAL ATTENTION TO CANCER.

Boston Dispensary, 25 Bennet street.

Patients admitted any forenoon through appropriate clinic. Special cancer clinics held on Tuesdays and Fridays at 9.30 a. m. Charge 50 cents.

Collis P. Huntington Memorial Hospital,
695 Huntington avenue.

Monday, 2.30 p. m., General Medical Clinic; Diseases of the Blood and Lymphatic Tissue.

Tuesday, 9.30 a. m., Pediatric Clinic; 3 p. m., General Surgical Clinic.

Wednesday, 10 a. m., General Medical Clinic; 3 p. m., Nose and Throat Clinic.

Thursday, 9 a. m., Genito-Urinary Clinic; 3 p. m., Gynecological Clinic.

Friday, 3 p. m., General Surgical Clinic. Charge $5. Any patient who cannot afford to pay is examined free.

Massachusetts General Hospital, Out-Patient Department, Fruit street.

Tumor clinic daily except Sundays and holidays. Charge 50 cents.

Palmer Memorial Hospital, 13 Pilgrim road, Brookline.

Clinic is held every Monday and Thursday at 3 p. m. Charge $5.

## ROUND WORMS AND CHILD WELFARE.

What should prove to be an important step in the promotion of child welfare has been undertaken at the School of Hygiene and Public Health at Johns Hopkins University. There has been an awakening to the importance of a matter which has hitherto been practically ignored in public health work in the consideration by public health workers of so-called "under nourishment" or "malnutrition" in children.

Under the auspices of the American Child Health Association and the National Research Council, an extended investigation will be conducted by Prof. W. W. Cort with respect to the effects of round worm (*ascaris lumbricoides*) infestation. The study will also include efforts to clear up certain matters not well understood regarding the life history and manner of transmission of these parasites.

In the course of the last six years, the Boston Health Department Bulletin has repeatedly referred to the neglect of ascarides infestation in conventional child welfare work. The mechanical presence of the parasites in a child's digestive tract would seem to be a sufficient presumptive cause of nutritional disturbance even without considering the passage of the larvae through the lungs, as is supposed to occur, but in addition, as has been mentioned in the Bulletin, round worms, like the hookworms, give off a toxic secretion, to the effects of which susceptibility varies greatly in different individuals.

## MEETING.

The regular meeting and luncheon of the Massachusetts Association of Boards of Health was held at the Hotel Bellevue, Beacon street, Boston, on Thursday, April 26 at 1 p. m.

The program included a paper on "Pneumonia Quarantine in Pittsburgh" by Dr. Philip E. Marks, Superintendent of the Bureau of Infectious Diseases of the Pittsburgh Health Department. The discussion was started by Dr. Hans Zinnser, Professor of Bacteriology and Immunity, at the Harvard Medical School. The importance of this paper was emphasized by the experiment of Pittsburgh where the death rate has been materially reduced since the introduction of quarantine in pneumonia — in fact, each year has shown a steady decline in the mortality from this disease.

## VITAL STATISTICS FOR MEDICAL MEN.

*(The following notes are a continuation of the series by Dr. Frederick L. Hoffman, consulting statistician, that began in the November, 1927, issue of the "Bulletin." As explained at that time, these notes will be so written as to make them readable and attractive to medical men, public health workers and laymen, and in such a manner that they will show their direct relation and value to the prevention of disease and prolongation of life.)*

### The Occupational Death Rate.

For the United States we have only fragmentary information concerning the precise death rate in particular occupations or industrial groups. Progress in this direction is being made, but slowly. The standard source of information for occupational death rates is the decennial report of the registrar-general of England and Wales, the last of which covers the three years 1910–12. A new report covering 1920–22 is forthcoming. This report emphasizes with unmistakable accuracy the decided effect of certain employments upon the health of the workers and the higher incidence of death rates from well-defined affections more or less influenced by occupational conditions. For the age period 25 to 44, for example, the mortality from pulmonary tuberculosis is 162 per 1,000 for textile workers but only 102 for miners. It is only 66 for clergymen but 89 for physicians. It is 292 for musicians and 294 for dock laborers, but the pulmonary tuberculosis figures for this country are higher, since in England there is excessive mortality from chronic bronchitis, which is much less frequent in fatal form in this country. Mortality rates by occupations require extreme care in their calculation to avoid serious errors, some of which cannot be eliminated. The occupations of the living are ascertained by a census, while the occupations of the dead are recorded by the attending physician, but the occupation at death may not be the occupation habitually followed during the lifetime of the deceased. Hence all occupational death rates are subject to error. Even in life insurance experience this cannot be entirely eliminated chiefly, of course, because of occupational changes. In certain employments the previous occupation of the deceased may have a profound influence on the cause of death. This, for illustration, is true of workers exposed to rock dust, such as stone workers, tunnel workers, quartz miners, etc., who suffer, to a considerable degree, from silicosis, which is a fibroid lung disease, as a rule not of tubercular origin but frequently complicated by a superinduced tuberculosis. Another industrial disease which requires painstaking care for its correct ascertainment is lead poisoning. There is often a tendency to assume lead poisoning because of employment in lead using trades. Errors of diagnosis are not infrequent. A clear line of demarcation requires to be drawn be-

tween lead absorption and lead poisoning. Chronic lead poisoning in fatal form has, during the last ten years, declined about 50 per cent in this country. Whether lead absorption has actually diminished to a like extent is a matter of conjecture. Occupational death rates are frequently called for, but before they can be accepted with confidence, physicians should pay more attention to the occupation of the deceased in the filling out of death certificates. Wherever possible both the present and the habitual occupation should be stated. Thus in lead poisoning, deaths sometimes occur in farmers who were formerly employed as painters or in the manufacture of electric storage batteries. Hence the urgency of a complete statement of all the facts on the part of the attending physician.

(*To be continued.*)

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## A PUBLIC HEALTH INSTITUTE FOR HEALTH OFFICERS AND OTHER PUBLIC HEALTH WORKERS.

JULY 2 TO JULY 24, INCLUSIVE.

*A special announcement will be sent upon request.*

Monday, July 2, is reserved as a conference day for applicants for Teachers' Courses.

It is desired that registration be completed in advance by mail. Material will be sent on request.

The fee for each course must be paid to the bursar before beginning the course.

Special dormitories are reserved for women students during the summer session.

For further information regarding the courses, address Committee on Summer Session, Massachusetts Institute of Technology, Cambridge, Mass.

**It is due to ignorance, and is a reflection upon the intelligence of any person, to become ill with typhoid fever or smallpox. Protective means have been discovered by which these diseases may be banished. It has been demonstrated that vaccination will protect you. Why not take advantage of this really free protection?**

**VACCINATION IS SAFE — IT IS SOUND — IT IS SURE.**

# SUMMARY OF THE WORK, MARCH, 1928.

## BUREAU OF ADMINISTRATION.

| | | | |
|---|---|---|---|
| Prosecutions ordered | 3 | Personnel: | |
| Legal notices | 202 | Retirement | 1 |
| Lying-in Hospital approved | 2 | Leave of absence | 1 |
| Extension on contract granted | 1 | Provisional appointment extended | 1 |
| Stable hearing | 1 | Temporary appointment | 1 |
| Conference | 1 | Permanent appointment | 1 |

## LICENSES, PERMITS, ETC., ISSUED.

| | | | |
|---|---|---|---|
| Burial permits | 1,247 | Milk | 137 |
| Day nurseries | 3 | Offensive trades | 2 |
| Denatured alcohol | 5 | Ice cream | 1 |
| Dumps approved | 5 | Pedlers | 62 |
| Dump disapproved | 1 | Grease | 32 |
| Garbage | 2 | Sausage manufacturing | 1 |
| Hen licenses | 406 | Stable permit, provisional | 1 |
| Manicure-massage | 54 | Stable permits, final | 2 |

## MEDICAL DIVISION.

| | | | |
|---|---|---|---|
| Visits: | | Cases brought to Boston for treatment | 123 |
| By medical inspectors | 1,220 | Deaths investigated | 12 |
| By veterinarian | 266 | | |
| By investigator | 370 | | |

## NURSING SERVICE.

| | | |
|---|---|---|
| Homes Visited | | 19,010 |
| Child Hygiene: | | |
| Visits to new cases | 1,386 | |
| Visits to old cases | 7,670 | |
| Total | | 9,056* |
| Communicable Diseases: | | |
| Visits to new cases | 3,159 | |
| Visits to old cases | 6,776 | |
| Total | | 9,935† |
| Tuberculosis: | | |
| Visits to new cases | 313 | |
| Visits to old cases | 3,549 | |
| Total | | 3,862‡ |

* Includes 96 wrong addresses; 933 not seen; 1,029 absent visits.

† Includes 109 wrong addresses; 169 not seen; 278 absent visits; 193 ophthalmia.

‡ Includes 67 wrong addresses; 450 not seen; 517 absent visits; 1,648 positive cases; 1,085 contact cases; 612 suspect cases—3,345.

| | | |
|---|---|---|
| MISCELLANEOUS VISITS: | | |
| Infant death investigations | 97 | |
| Maternal death investigations | 9 | |
| Patients accompanied to hospitals | 5 | |
| Visits to day nurseries | 10 | |
| Visits to parochial schools | 107 | |
| Other special visits | 9 | |
| Posture clinics | 26 | |
| Total | | 263 |
| Total number of visits | | 22,853 |
| In stations by nurses | 3,201 hours, 10 minutes | |
| In baby conferences | 1,587 hours, | |
| In tuberculosis clinics | 939 hours, 30 minutes | |
| In posture clinics | 71 hours. | |
| In parochial schools | 98 hours, 30 minutes | |
| In nurses' conferences | 585 hours, 30 minutes | |
| Total number of hours | 6,482 hours, 40 minutes | |

## HEALTH UNITS.

| | |
|---|---|
| MISCELLANEOUS UNIT ACTIVITIES: | |
| Complaint of insanitary conditions | 12 |
| Number of persons given health and other information | 2,207 |
| City visitors | 70 |
| Out of city visitors | 21 |
| DENTAL SERVICE: | |
| Number of children's teeth cleaned | 243 |
| Number of children treated | 3,353 |
| Prophylaxis | 5,509 |
| EYE SERVICE: | |
| New cases | 32 |
| Number of refractions | 61 |
| Number of glasses prescribed | 20 |
| Number of examinations for diagnosis | 18 |
| CHILD HYGIENE DIVISION: | |
| Number of child health conferences | 36 |
| Total attendance at conferences | 1,467 |
| New babies at conferences | 224 |
| New preschool age children at conferences | 27 |
| Vaccinations performed | 60 |
| Vaccination certificates issued | 38 |
| Number of posture clinics | 17 |
| Total attendance at posture clinics | 699 |
| Toxin-antitoxin administrations | 86 |
| Examined for day nurseries | 65 |
| TUBERCULOSIS CLINICS: | |
| Number of clinics | 47 |
| Attendance at tuberculosis clinics | 796 |
| New cases | 167 |
| X-ray examinations | 299 |

NURSING SERVICE:

| | |
|---|---|
| Homes visited by nurses | 5,337 |
| Total visits to babies and preschool children | 3,149 |
| Total communicable disease visits | 1,497 |
| Total tuberculosis visits | 1,613 |
| Infant death investigations | 28 |
| Special visits | 7 |
| Alpine lamp treatments | 210 |

NOSE AND THROAT SERVICE:

| | |
|---|---|
| Number of clinics | 9 |
| Number of children examined | 395 |
| Number of operations advised | 186 |

BOSTON LYING-IN HOSPITAL:

Pre-natal Clinic:

| | |
|---|---|
| Number of clinics | 13 |
| Attendance | 246 |
| New cases | 70 |

COMMUNITY HEALTH ASSOCIATION:

General Division:

| | |
|---|---|
| Home visits by nurses | 9,956 |

BOSTON DISPENSARY:

| | |
|---|---|
| Calls by district physician | 233 |

STATE DEPARTMENT OF MENTAL DISEASES:

| | |
|---|---|
| Number of clinics | 9 |
| Attendance at clinics | 27 |
| Visits of workers | 101 |
| New cases | 14 |

INFANTILE CLINIC OF CHILDREN'S HOSPITAL:

| | |
|---|---|
| Number of clinics | 10 |
| Attendance | 102 |

## FOOD INSPECTION DIVISION.

### MARKET, STORE AND RESTAURANT SERVICE.

| | |
|---|---|
| Reinspections | 308 |
| Stores inspected | 6,715 |
| Sanitary defects remedied | 190 |
| Complaints at office | 49 |
| Referred to Sanitary Division | 30 |
| Milk applicants | 24 |
| Notices to abate nuisances | 154 |
| Court cases | 7 |
| Convictions | 1 |

| | |
|---|---|
| Approved | 3 |
| Pending | 2 |
| Applications for pedlers' licenses approved | 67 |
| Vehicles inspected and approved | 518 |
| Laboratory Examinations: | |
| Bacteriological | 5 |
| Chemical | 7 |

## CONDEMNATIONS.

| | |
|---|---|
| Meat: | |
| Beef | 3,068 pounds |
| Chicken | 11 pounds |
| Duck | 14 pounds |
| Hog | 771 pounds |
| Pork | 4 pounds |
| Poultry | 12 pounds |
| Salt pork | 20 pounds |
| Sheep livers | 180 |
| Tripe | 225 pounds |
| Turkey | 96½ pounds |
| Veal | 8,318 pounds |
| Fish: | |
| Kippered herring | 35 cans |
| Lobster | 7½ pounds |
| Salt fish | 90 pounds |
| Salt fish | 5 cases |
| Sardines | 100 cans |
| Tuna | 50 cans |
| Fruit: | |
| Apples | 1 bushel |
| Figs | 1 case |
| Grapefruit | 275 pounds |
| Oranges | 6 boxes |
| Oranges | 133 dozen |
| Peaches | 40 cans |
| Pears | 1 bushel |
| Prunes | 114 cans |
| Vegetables: | |
| Beans | 150 pounds |
| Beans | 65 cans |
| Cabbage | 500 pounds |
| Cucumbers | 1 bushel |
| Cauliflower | 200 pounds |
| Lentils | 36 pounds |
| Onions | 8½ bushels |
| Onions | 800 pounds |
| Vegetables: | |
| Pickles | 13½ barrels |
| Pickles | 10,400 pounds |
| Squash | 10 pounds |
| Sauerkraut | 100 pounds |
| Tomatoes | 2 barrels |
| Tomatoes | 968 pounds |
| Peas | 40 cans |
| Tomato, concentrated, | 75 pounds |
| Miscellaneous: | |
| Baking powder | 3 cases |
| Candy | 18 cases |
| Condensed milk | 70 cans |
| Cornflakes | 20 packages |
| Cereal | 6 bags |
| Coffee | 400 pounds |
| Chocolate | 500 pounds |
| Extract | 45 bottles |
| Glucose | 150 pounds |
| Crackers | 60 pounds |
| Jam | 150 pounds |
| Jelly | 1 pail |
| Ketchup | 9 bottles |
| Marshmallow | 150 pounds |
| Miscellaneous | 360 cans |
| Mustard | 86 jars |
| Peanuts | 150 pounds |
| Rice | 77½ pounds |
| Raisins | 75 pounds |
| Salad oil | 61 cans |
| Salt | 350 pounds |
| Starch | 300 pounds |
| Spices | 100 packages |
| Sugar | 516 pounds |
| Tomato sauce | 14 cans |
| Nuts | 50 pounds |
| Farina | 280 pounds |

## LIVE STOCK INSPECTION (Brighton Abattoir).

| | |
|---|---|
| Cattle inspected | 18,322 |
| Calves inspected | 9,414 |
| Swine inspected | 4,898 |
| Parts condemned (lbs.) | 12,975 |
| Animals condemned | 71 |

## DAIRY DIVISION.

| | | | |
|---|---|---|---|
| Total inspection | 1,383 | Total cattle inspected | 7,652 |
| Dairies inspected | 523 | Inspections of milk plants and licensed dealers | 281 |
| Scoring above 50 * | 367 | Bacteriological examinations | 90 |
| Scoring below | 156 | Country creamery inspections | 12 |
| With milk rooms | 383 | Sediment tests | 446 |
| Without milk rooms | 140 | | |
| Inactive | 26 | | |

* Passable mark.

## BUREAU OF MILK INSPECTION.

### SAMPLES EXAMINED.

| | |
|---|---|
| CHEMICAL: | |
| Milk from wagons | 390 |
| Milk from stores | 1,064 |
| Milk brought by citizens | 2 |
| Vinegar | 60 |
| Salad oil | 6 |
| Stomach contents | 1 |
| Water | 3 |
| Miscellaneous | 4 |
| BACTERIOLOGICAL: | |
| Milk | 704 |
| Ice cream | 42 |
| Court case | 1 |
| Fines | $200 |

## SANITARY INSPECTION.

| | | | |
|---|---|---|---|
| Original inspections | 2,984 | Legal notices served | 211 |
| Reinspections | 7,527 | Complaints investigated | 1 |
| Nuisances abated | 1,808 | | |

## BACTERIOLOGICAL LABORATORY.

| | |
|---|---|
| Diphtheria | 986 |
| Tuberculosis | 580 |
| Typhoid | 24 |
| Gonorrhea | 200 |
| Gonorrheal ophthalmia | 14 |
| Syphilis | 2,637 |
| Other examinations * | 289 |
| Bacteriological examinations of milk | 704 |
| Bacteriological examinations of ice cream | 42 |
| Swimming pools examined | 64 |
| Beaches examined | 3 |
| Extra waters | 2 |
| School waters | 12 |

* Urines, 265; shellfish, 8; urines for B. Typhosis, 2; drinking water for bacteria, 1; feces for B. Typhosis, 6; smear for Vincent's angina, 1; sputum for tuberculosis, 1; salmon for toxins, 1; feces for parasites, 1; candy for poison, 1; nuts for B. Coli, 1; smear for syphilis, 1.

## MONTHLY REPORT OF VENEREAL DISEASE ACTIVITIES, MARCH, 1928.

### SYPHILIS.

| | |
|---|---|
| Current cases under investigation March 1, 1928 | 22 |
| New cases during March | 17 |
| Total | 39 |

#### Disposition of Cases.

| | |
|---|---|
| Unable to locate | 5 |
| Moved out of town | 4 |
| False address | 3 |
| Under treatment | 7 |
| Under investigation | 20 |
| Total | 39 |
| New cases reported by number | 48 |

### GONORRHEA.

| | |
|---|---|
| Current cases under investigation March 1, 1928 | 44 |
| New cases during March | 70 |
| Total | 114 |

#### Disposition of Cases.

| | |
|---|---|
| Unable to locate | 16 |
| Moved out of town | 2 |
| False address | 8 |
| Under treatment | 20 |
| Under investigation | 68 |
| Total | 114 |
| New cases reported by number | 183 |

### SUMMARY.

| | |
|---|---|
| Current cases under investigation March 1, 1928 | 66 |
| New cases during March | 87 |
| Total | 153 |

#### Disposition of Cases.

| | |
|---|---|
| Unable to locate | 21 |
| Moved out of town | 6 |
| False address | 11 |
| Under treatment | 27 |
| Under investigation | 88 |
| Total | 153 |
| Visits by venereal investigator | 370 |

### COMPLAINTS AND SOURCES OF INVESTIGATION.

| | |
|---|---|
| Moved out of town | 1 |
| Unable to locate | 7 |
| Under treatment | 5 |
| No evidence of disease | 4 |
| Total | 17 |
| Venereal deaths investigated | 4 |

# REPORT OF TUBERCULOSIS DIVISION, MARCH, 1928.

In the month of March there were 128 clinic sessions held at the ten clinics: Distribution of clinics was as follows:

| | |
|---|---|
| At the South End Health Unit | 17 |
| At the East Boston Health Unit | 13 |
| At the North End Health Unit | 13 |
| At the West End Health Unit | 13 |
| At the South Boston Health Unit | 8 |
| At the Boston Dispensary | 29 |
| At the Brighton Dispensary | 8 |
| At the Charlestown Dispensary | 9 |
| At the Codman Square Dispensary | 9 |
| At the Hyde Park Dispensary | 9 |
| | 128 |

| Districts. | Total Number Cases at Clinics. | | | Total Number of New Cases at Clinics. | | |
|---|---|---|---|---|---|---|
| | Adult. | Children. | Total. | Adult. | Children. | Total. |
| South End | 199 | 143 | 342 | 45 | 32 | 77 |
| East Boston | 112 | 160 | 272 | 23 | 24 | 47 |
| North End | 80 | 191 | 271 | 18 | 30 | 48 |
| West End | 36 | 64 | 100 | 11 | 14 | 25 |
| South Boston | 72 | 53 | 125 | 17 | 17 | 34 |
| Boston Dispensary | 57 | 7 | 64 | 20 | — | 20 |
| Brighton | 20 | 6 | 26 | 2 | 4 | 6 |
| Charlestown | 16 | 26 | 42 | 4 | 3 | 7 |
| Codman square | 92 | 46 | 138 | 16 | 15 | 31 |
| Hyde Park | 21 | 11 | 32 | 5 | — | 5 |
| Totals | 705 | 707 | 1,412 | 161 | 139 | 300 |

| Districts. | Von Pirquet. | Wasserman. | Lamp. | X-Ray. |
|---|---|---|---|---|
| South End | 30 | 9 | 114 | 150 |
| East Boston | 24 | 3 | 178 | 73 |
| North End | 39 | 8 | 68 | 113 |
| West End | 18 | 4 | — | — |
| South Boston | 14 | 7 | 144 | 69 |
| Boston Dispensary | 9 | 1 | — | — |
| Brighton | 6 | — | — | — |
| Charlestown | 10 | 1 | — | — |
| Codman square | 21 | 12 | — | — |
| Hyde Park | 4 | 1 | — | 1 |
| Totals | 175 | 46 | 504 | 405 |

## TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING MARCH, 1928.

| Classification. | Number. | Percentage. |
|---|---|---|
| After death | 14 | 24.14 |
| Seven days or less | 8 | 13.79 |
| Eight to fourteen days, inclusive | 1 | 1.73 |
| Fifteen to twenty-one days, inclusive | 4 | 6.89 |
| Twenty-two to thirty-one days, inclusive | — | — |
| Within First Month. (Total) | 27 | 46.55 |
| Within second month | 2 | 3.45 |
| Within third month | 3 | 5.17 |
| Within fourth month | 1 | 1.72 |
| Within fifth month | 1 | 1.73 |
| Within sixth month | 1 | 1.72 |
| Within seventh month | 4 | 6.89 |
| Within eighth month | 2 | 3.45 |
| Within ninth month | 3 | 5.17 |
| Within tenth month | 1 | 1.73 |
| Within eleventh month | 1 | 1.72 |
| Within twelfth month | — | — |
| Within First Year Preceding Death. (Total) | 46 | 79.30 |
| Within second year | 2 | 3.45 |
| Within third year | 1 | 1.73 |
| More than three years | 9 | 15.52 |
| Grand totals | 58 | 100.00 |

# CHILD HYGIENE DIVISION.

## REPORT OF ACTIVITIES OF MEDICAL INSPECTORS MARCH, 1928.

| | |
|---|---|
| Inspections | 578 |
| Physical examinations | 189 |
| Schick tests | 1 |
| Toxin-antitoxin administrations | 1,912 |
| Vaccinations | 61 |
| Vaccination certificates issued | 23 |
| Anti-typhoid inoculations | 2 |
| Day nursery, visits to | 53 |
| Parochial school visits | 48 |
| Conferences | 1 |

# REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES FOR MARCH, 1928.

| Station. | Toxin–Antitoxin. | | | | Number of Vaccinations. |
|---|---|---|---|---|---|
| | First. | Second. | Third. | Total. | |
| Old Town Hall, Brighton | 11 | 15 | 14 | 40 | 1 |
| 31 Lincoln street, Brighton | — | — | — | — | — |
| Charlestown Municipal Building | — | 2 | 13 | 15 | 3 |
| Codman Square Library | 1 | 5 | 6 | 12 | 3 |
| Columbia Road Municipal Building | — | 4 | 14 | 18 | 3 |
| 1 Arcadia street, Dorchester | 1 | — | — | 1 | 5 |
| East Boston Health Unit | — | — | — | — | — |
| Hyde Park Municipal Building | 1 | 1 | 1 | 3 | 6 |
| Curtis Hall, Jamaica Plain | 1 | 1 | 3 | 5 | 7 |
| North End Health Unit | 7 | 4 | 5 | 16 | — |
| Roslindale Municipal Building | — | — | 2 | 2 | 13 |
| Beth Israel Hospital | 4 | 4 | 2 | 10 | — |
| Children's Hospital | — | — | — | — | — |
| 1049 Columbus avenue | 3 | 6 | 25 | 34 | 19 |
| Vine Street Municipal Building | 3 | 2 | 10 | 15 | 10 |
| 133 Dorchester street, South Boston | — | 3 | 2 | 5 | 3 |
| 122 Tyler street | 4 | 5 | 6 | 15 | 6 |
| Shawmut Avenue Municipal Building | 3 | 6 | 7 | 16 | 6 |
| 57 East Concord street | 10 | 10 | 10 | 30 | 2 |
| 17 Blossom street | — | — | — | — | — |
| Totals | 49 | 68 | 120 | 237 | 87 |

# MONTHLY REPORT OF CHILD HEALTH CONFERENCES MARCH, 1928.

| Station. | Number of Babies. | Number of Pre-school. | Total Attendance. | Number of New Babies. | Number of New Preschool. | Total New Cases. | Number of Conferences. | Average Attendance. |
|---|---|---|---|---|---|---|---|---|
| Old Town Hall, Brighton | 162 | 7 | 169 | 15 | 2 | 17 | 4 | 42.2 |
| 31 Lincoln street, Brighton | 58 | 12 | 70 | 15 | — | 15 | 5 | 14.0 |
| Charlestown Municipal Building | 212 | 24 | 236 | 29 | — | 29 | 8 | 29.5 |
| Codman Square Library | 222 | 35 | 257 | 37 | 2 | 39 | 8 | 32.1 |
| Columbia Road Municipal Building | 301 | 5 | 306 | 27 | 1 | 28 | 8 | 38.2 |
| 1 Arcadia street, Dorchester | 257 | 9 | 266 | 24 | 1 | 25 | 8 | 33.2 |
| East Boston Health Unit | 353 | 22 | 375 | 75 | 3 | 78 | 9 | 41.6 |
| Hyde Park Municipal Building | 100 | 6 | 106 | 14 | 1 | 15 | 4 | 26.5 |
| Curtis Hall, Jamaica Plain | 122 | 16 | 138 | 13 | 3 | 16 | 4 | 34.5 |
| North End Health Unit | 205 | 67 | 272 | 42 | 3 | 45 | 9 | 30.2 |
| Roslindale Municipal Building | 162 | 29 | 191 | 10 | 2 | 12 | 4 | 47.7 |
| Beth Israel Hospital | 219 | 16 | 235 | 30 | 4 | 34 | 5 | 47.0 |
| Children's Hospital | 107 | 8 | 115 | 9 | 3 | 12 | 4 | 28.7 |
| 1049 Columbus avenue | 338 | 29 | 367 | 35 | 3 | 38 | 9 | 40.7 |
| Vine Street Municipal Building | 321 | 10 | 331 | 52 | 1 | 53 | 9 | 36.7 |
| 133 Dorchester street, South Boston | 361 | 41 | 402 | 80 | 13 | 93 | 9 | 44.6 |
| 122 Tyler street | 100 | 15 | 115 | 10 | 3 | 13 | 4 | 28.7 |
| Shawmut Avenue Municipal Building, | 94 | 22 | 116 | 14 | 1 | 15 | 4 | 29.0 |
| 57 East Concord street | 227 | 19 | 246 | 30 | 4 | 34 | 5 | 49.2 |
| 17 Blossom street | 363 | 50 | 413 | 36 | 4 | 40 | 9 | 45.8 |
| Totals | 4,284 | 442 | 4,726 | 597 | 54 | 651 | 129 | 36.1 |

# VITAL STATISTICS, MARCH, 1928.

## BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING MARCH, 1928, WITH COMPARATIVE FIGURES FOR MARCH, 1927.

| | BIRTHS AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **All Causes:** | | | | | | |
| Total deaths | 1,118 | 1,093 | +25 | 16.79 | 16.54 | +.25 |
| Nonresidents deducted | 907 | 887 | +20 | 13.62 | 13.42 | +.20 |
| **By Age:** | | | | | | |
| Under one year | 156 | 134 | +22 | 2.34 | 2.03 | +.31 |
| One year to four years, inclusive | 66 | 33 | +33 | .99 | .50 | +.49 |
| Sixty years and over | 423 | 455 | —32 | 6.35 | 6.88 | —.53 |
| **By Special Causes:** | | | | | | |
| Degenerative Diseases, So Called: | | | | | | |
| Apoplexy | 67 | 59 | +8 | 1.01 | .89 | +.12 |
| Arteriosclerosis | 24 | 21 | +3 | .36 | .32 | +.04 |
| Heart disease | 239 | 221 | +18 | 3.59 | 3.34 | +.25 |
| Nephritis, chronic | 51 | 75 | —24 | .76 | 1.13 | —.37 |
| **Infant and Maternal Mortality:** | | | | | | |
| *a.* Total registered live births | 1,341 | 1,405 | —64 | 20.13 | 21.26 | —1.13 |
| *b.* Registered stillbirths | 36 | 34 | +2 | .54 | .51 | +.03 |
| Stillbirths per 1,000 births and stillbirths | ..... | ..... | ..... | 26.14 | 23.62 | +2.52 |
| *c.* Deaths of mothers from causes incident to childbirth | 22 | 13 | +9 | .33 | .20 | +.13 |
| Deaths of mothers per 1,000 births and stillbirths | — | — | — | — | — | — |
| Deaths of children in first year of life | 156 | 134 | +22 | 2.34 | 2.03 | +.31 |
| Deaths in first year per 1,000 live births, | — | — | — | 116.33 | 95.37 | +20.96 |
| **Violence:** | | | | | | |
| Accidents | 40 | 63 | —23 | .60 | .95 | —.35 |
| Homicides | 2 | 1 | +1 | .03 | .015 | +.015 |
| Suicides | 8 | 8 | — | .12 | .12 | — |
| **Miscellaneous:** | | | | | | |
| Alcoholism, acute or chronic | 7 | 12 | —5 | .10 | .18 | —.08 |
| Broncho-pneumonia | 89 | 72 | +17 | 1.34 | 1.09 | +.25 |
| Cancer | 93 | 104 | —11 | 1.40 | 1.57 | —.17 |
| Cirrhosis of the liver | 7 | 7 | — | .10 | .10 | — |
| Diabetes mellitus | 27 | 12 | +15 | .40 | .18 | +.22 |
| Diarrheal diseases, children under two years of age | 12 | 5 | +7 | .18 | .07 | +.11 |

## BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON, MARCH, 1928.

| | CASES AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **Communicable Diseases:** | | | | | | |
| Anterior poliomyelitis.....Cases.. | 1 | — | +1 | .015 | — | +.015 |
| Deaths. | — | — | — | — | — | — |
| Cerebrospinal meningitis.....Cases.. | 4 | 5 | —1 | .06 | .07 | —.01 |
| Deaths. | 1 | 5 | —4 | .015 | .07 | —.055 |
| Diphtheria.....Cases.. | 110 | 156 | —46 | 1.65 | 2.36 | —.71 |
| Deaths | 3 | 4 | —1 | .04 | .06 | —.02 |
| Influenza.....Cases.. | 13 | 33 | —20 | .19 | .50 | —.31 |
| Deaths. | 6 | 7 | —1 | .09 | .10 | —.01 |
| Measles.....Cases.. | 2,241 | 254 | +1,987 | 33.65 | 3.84 | +29.81 |
| Deaths. | 20 | 1 | +19 | .30 | .015 | +.285 |
| Pneumonia (lobar).....Cases.. | 253 | 157 | +96 | 3.80 | 2.37 | +1.43 |
| Deaths. | 94 | 60 | +34 | 1.41 | .91 | +.50 |
| Scarlet fever.....Cases.. | 360 | 655 | —295 | 5.40 | 9.91 | —4.51 |
| Deaths. | 6 | 4 | +2 | .09 | .06 | +.03 |
| Tuberculosis (pulmonary).....Cases.. | 140 | 130 | +10 | 2.10 | 1.97 | +.13 |
| Deaths. | 58 | 67 | —9 | .87 | 1.01 | —.14 |
| Tuberculosis (other forms).....Cases.. | 34 | 20 | +14 | .51 | .30 | —.21 |
| Deaths. | 8 | 6 | +2 | .12 | .09 | +.03 |
| Typhoid fever.....Cases.. | 5 | 8 | —3 | .07 | .12 | —.05 |
| Deaths. | — | — | — | — | — | — |
| Whooping cough.....Cases.. | 291 | 91 | +200 | 4.37 | 1.38 | +2.99 |
| Deaths. | 9 | 3 | +6 | .13 | .04 | +.09 |

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births, per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1928 (mid-year), based upon the federal census of 1920, has been used.

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MONTHLY BULLETIN

# HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

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## THE MISUSE OF THE LABORATORY.

The developments of bacteriology have proved of inestimable value in the prevention, diagnosis and treatment of disease. It is also equally true that the practical value of the laboratory for such purposes depends entirely upon its intelligent use.

The findings of the chemical laboratory as well as of the bacteriological laboratory represent to a considerable extent the outcome of hypotheses rather than deductions from unquestionable premises, but unlike chemistry, bacteriology deals with living organisms, with the mystery of life, while chemistry does not. Until the difference between dead and living matter becomes no longer mysterious there will be limitations to the value of the findings of a bacteriological laboratory calling for an entirely different sort of consideration from that which may properly be accorded to a chemical analysis.

The diagnosis of disease depends upon the correct interpretation of observable vital phenomena. The laboratory may serve to extend the field of such observation, but in endeavoring to do so it may mislead because of deductions from erroneous hypotheses. The laboratory does not offer a means of overcoming or avoiding consequences of our imperfect understanding of biological processes.

There are also reasons other than those arising from a realiza-

tion of our imperfect biological knowledge which lead experienced physicians to discard laboratory reports when inconsistent with clinical symptoms.

The proper conduct of a bacteriological or pathological laboratory, when it is something bigger than a one-man affair, is a business proposition calling for rather exceptional executive ability. Even in the best-managed institutions reagents or cultures do go bad or become untrustworthy before the fact is discovered. Technicians and other employees prove to be incompetent or unreliable. However carefully devised the clerical system may be of recording and reporting the results of the examinations of specimens submitted, the result of an examination of a specimen may be reported back to the wrong source.

The bacteriological or pathological laboratory is no more exempt from consequences of inattention, forgetfulness or errors of judgment than any other human institution. In spite of most elaborate systems of checks to prevent bookkeeping errors, they do occur in the best regulated bank.

All the matters referred to in the foregoing come to be regarded as perfectly obvious by those who have had the benefit of a broad medical training and experience. To an ever-increasing extent, however, work intended to promote public health and social welfare is being taken up by persons who not only lack a good medical background, but often fail to appreciate the shortcomings of their instruction in medical subjects. Official encounters with such persons arise most frequently from a misconception regarding the practical significance of a laboratory report. The laboratory may not only be supposed to be able to accomplish the impossible, but a significance is attributed to a laboratory report entirely unjustifiable by the language of the report itself.

It is with the hope of contributing to a better understanding of the usefulness of a laboratory that this article is prepared.

The experience of the Boston Health Department has shown that among those who have assumed the management of the personal affairs of others there are persons who regard a laboratory report of a single positive Wassermann reaction as a sort of divine revelation to justify the breaking up of families and the prevention of marriage. It, therefore, becomes necessary in accordance with the purpose of this article to mention the following well-known facts.

The laboratory may report that a specimen shows "positive Wassermann reaction." A laboratory never reports that the person concerned has syphilis. If a laboratory were able to do so the laboratory would so report.

Even a report that the Wassermann reaction is positive may be wrong with respect to the person named because of some clerical slip similar to those which sometimes make a bank statement erroneous.

There are also other matters to be considered before accepting a positive Wassermann reaction as proof of syphilitic infection.

In testing for the Wassermann reaction as commonly carried out at present the laboratory technician observes whether the specimen of human blood submitted for the test prevents the dissolution, or "hemolyzing," of sheep's blood when the two are brought together in a complete mixture of various other animal or protein products. Conjecture and accident as well as deductions from biological observations and conclusions from hypotheses have determined the composition of the mixture and its manner of use.

Like the witches' broth in "Macbeth," a mixture of the serum of an inoculated sheep, an extract from an ox's heart, salt and water, sheep's blood and human blood, is suggestive of the supernatural. Impressions of this sort should not, however, be allowed to give rise to any delusions regarding the test. Neither should an unreasonable confidence in the finality of the hypotheses which have aided in its development. The complement fixation test is based on an unmistakable, even though obscure biological principle. Experience has long since demonstrated the incalculable practical value of this test when intelligently utilized. Experience has likewise shown its fallibility.

Inexplicable inconsistencies in the appearance of the Wassermann reaction even with the blood of syphilitics are well recognized. There are likewise inconsistencies which may be explained.

Those who may be interested will find in the "Boston Medical and Surgical Journal" for September 21, September 28, October 5 and October 12, 1922 (volume 187, Nos. 12, 13, 14 and 15), an instructive report by Francis H. Slack, M. D., with the co-operation of various institutions and other agencies in Boston and vicinity. It is entitled "An Investigation of the Reliability of Laboratory Tests and a Discussion of the Technique of Laboratories In and Near Boston." The investigation was made possible through the efforts of former Boston Health Commissioner Dr. W. C. Woodward. The report covered discrepancies among four laboratories with respect to the Wassermann tests and other matters referred to in the present article.

Of even greater practical importance than erroneous reports from causes within the laboratory is a due recognition of the fact that conditions other than syphilis may give a positive Wassermann reaction.

Rosenau states, "In a small percentage of syphilitics, the Wassermann reaction remains negative, while on the other hand it may become positive in other infections, such as yaws, and sometimes in malaria, pneumonia, scarlet fever, and especially in diseases associated with deranged metabolism of the liver."

The present writer once saw a list, prepared by the famous Dr. Paul Ehrlich for governmental purposes in connection with the adjudication of industrial claims, specifying about thirty conditions other than syphilis which might give a positive Wassermann reaction.

From time to time there are referred to the Boston Health Department for custody and treatment easily recognizable cases of leprosy which, because of a positive Wassermann reaction, have been receiving dispensary treatment for syphilis for months. Plain clinical evidence of leprosy has been ignored until some visitor at the dispensary has recognized the case as leprosy on sight.

The writer's own observations covering about 200,000 routine examinations of the blood of immigrants would indicate that almost any severe acute infection, including an attack of tonsilitis, may be responsible for a temporarily positive Wassermann reaction. To what extent a transitory positive Wassermann reaction, or even repeated positive Wassermann reactions, may be obviated by a different laboratory technique is immaterial for the purpose of this article. The fact to be kept in mind is that they may occur.

In accordance with the purpose of this article, official experience also calls for mention of the fact that what we have become accustomed to hearing referred to as a "positive smear" does not really constitute conclusive evidence of gonorrhea. Too often, in official experience, a respectable mother who has never shown clinical evidence of gonorrhea has come up for official action as a case of gonorrhea unlawfully neglecting treatment, simply because, in the course of a routine "complete physical examination" or because her young infant has developed an inconsequential conjunctivitis, a specimen has been submitted for a laboratory report.

The only information which a laboratory pretends to give as the result of the usual laboratory procedure in such cases is carefully stated in every report sent out from the laboratory of the Boston Health Department. It reads as follows: the specimen submitted, "to be examined for gonococci shows the presence of organisms corresponding morphologically and in staining reaction to the gonococcus." In more technical language the laboratory has found, assuming no clerical errors, a "Gram negative intracellular diplococcus." This description covers other well-known bacteria and furthermore cannot be absolutely depended upon to differentiate

the gonococcus from other bacteria very likely to be found in the localities from which specimens for examination for gonococci are usually taken.

The procedure on which the report as above quoted is based does not exhaust the laboratory's means of identifying the bacteria in the specimen submitted, but further investigation takes considerable time. In an infection in which a delay of a few hours in instituting appropriate treatment may mean loss of eyesight, it is eminently proper that the laboratory should give a physician's patient at the earliest possible moment the benefit of such information as the laboratory is able to give. That is why it is customary for the Boston Health Department, as well as other laboratories, to transmit a positive report immediately by telephone before sending out the formal written report. The laboratory feels justified in assuming that its examination is intended for the benefit of a patient showing clinical symptoms suggestive of gonorrheal infection rather than to serve social or legal purposes.

Many years ago it was discovered that bacteria tend to clump together when placed in an immune serum or in other words in a serum antagonistic to the natural development and activity of the bacteria. This phenomenon of "agglutination," as it is called, has been made of practical usefulness in a wide field and in a variety of ways. On the assumption that, if a certain kind of disease bacteria are responsible for a case of sickness the patient's blood will tend to develop immunizing properties, the agglutination test is used as an aid to the diagnosis of various diseases. The bacteria suspected of being the cause of the sickness are taken from the laboratory's regular stock of such bacteria and mixed with serum from the patient's blood and the mixture watched to see if they will clump together or "agglutinate." If so, the laboratory returns a "positive report." Bacteria, however, do not always act as they are supposed to do under such conditions. Sometimes their vagaries may be plausibly explained and sometimes not.

Under the name of the Widal reaction an agglutination test has attained such an unjustifiable prominence in connection with the diagnosis of typhoid fever that it would perhaps be better for patients with the disease and for the public if the test were unknown. In this disease especially the tendency to look to the laboratory to make a diagnosis has most unfortunate consequences. Even the public has come to feel that clinical symptoms of typhoid fever may be disregarded and precautions for the protection of others neglected unless the laboratory returns a "positive Widal."

In any typhoid fever case precautions to be effective in preventing the spread of infection from a patient must be taken before a

"positive Widal" can be obtained, for, as might be expected, it will take time, perhaps two or three weeks, for the patient's blood to develop the immunizing properties which will cause typhoid bacilli to agglutinate. Also, as an illustration of the inconsistencies which the Widal test may exhibit at a of stage typhoid fever when a positive reaction is to be expected, the following incident may be related:

Ten persons were infected with typhoid fever the same day and from the same source. They were all clinically typical cases. When the cases were in their third week specimens of blood were taken from all the patients on three occasions, about two days apart, and submitted to the Widal test.

In only two of the ten cases was the reaction positive for all three specimens. In the other eight cases both negative and positive reactions were obtained and cases in which positive reactions had been obtained were negative for the third specimen.

These results were called to the writer's attention by a laboratory director of exceptional experience. He had made the tests personally because he was trying to find an explanation for inconsistencies in the laboratory reports on previous tests. Whether he was successful or not in accounting for the inconsistent reactions is immaterial for the purpose of this article.

Probably the laboratory report best known to physicians and the public is that which, as sent out by the Boston Health Department laboratory, reads: "The culture submitted by you yesterday, from [patient's name] shows the presence of the bacilli of diphtheria." In order that the physician and patient may receive full benefit of the laboratory examination the written report is preceded by a telephone report to the same effect. Other laboratories may use the term Klebs-Loeffler bacilli instead of bacilli of diphtheria.

As when reporting "the presence of organisms corresponding morphologically and in staining reaction to the gonococcus," the laboratory aims to give a warning as quickly as possible that the specimen indicates that a patient may need prompt and appropriate treatment for diphtheria. Clinical symptoms, or other circumstances, may show that this is not so. The person from whom the specimen is taken may not be sick at all. The laboratory does not pretend to say what shall be done with a person in whom diphtheria bacilli are found. If from a patient who shows clinical evidence of diphtheria it is to be expected that the patient was given antitoxin at once without waiting for a laboratory report.

The regular laboratory report does not undertake to say that the diphtheria bacilli found are dangerous to the person from whom the culture was taken, or to his associates. Persons may carry, without harm to themselves, diphtheria bacilli dangerous to others. At the

time a culture is taken from such a person immune to diphtheria he may be suffering from some other disease, as, for example, measles or typhoid fever.

The diphtheria bacilli found by the laboratory may not be dangerous to anybody. There are laboratory technicians who claim that they can distinguish dangerous diphtheria bacilli under the microscope, but other laboratory workers with even greater experience make no such pretensions. Frequently, after repeated cultures have been reported by the Boston Health Department laboratory as showing "diphtheria bacilli," they are found by a so-called "virulence test" to be unable to do harm to a guinea pig. In fact, experience would indicate that the "diphtheria bacilli" found in a healthy looking throat are very likely to be harmless to anybody.

Because of the many years laboratories have been reporting on cultures taken from persons' throats it might be assumed that the facts just stated are well understood by those accustomed to ask for laboratory reports on throat cultures, but official experience fully justifies mention of these facts in view of the purpose of this article

The foregoing by no means covers the entire field in which our official experience shows a misconception of the function of a laboratory. It should be sufficient, however, to indicate the great need of a better understanding of the laboratory, both with respect to its power to serve and its limitations. Anyone who undertakes to make use of a laboratory report for any purpose should always be sure that he has a clear conception of its significance. Those who lack a medical education and experience should develop the habit of consulting the director of the laboratory before using a laboratory report for their own special purposes.

**It is due to ignorance, and is a reflection upon the intelligence of any person, to become ill with typhoid fever or smallpox. Protective means have been discovered by which these diseases may be banished. It has been demonstrated that vaccination will protect you. Why not take advantage of this really free protection?**

**VACCINATION IS SAFE — IT IS SOUND — IT IS SURE.**

## SURVEY OF THE QUALITY OF MILK SOLD BY BOSTON WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during April, 1928. Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat; for bacteria it is required that it contain per cubic centimeter not more than 100,000 in pasteurized milk and in raw milk; and not more than 10,000 in certified milk:

KEY TO KIND OF MILK.

P means pasteurized milk.

C means raw certified milk, the only kind sold by this dealer.

R means raw milk from accredited herds of tuberculin tested cows, the only kind sold by this dealer.

| NAME OF DEALER. | Kind of Milk. | SOLIDS. | FAT. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| | | Per Cent. | Per Cent. | |
| Allen, Fred H. | P | 12.42 | 3.83 | 18 |
| Antetomasso, Peter | P | 13.13 | 4.30 | 16 |
| Barron, C. W. | C | 13.89 | 4.83 | 8 |
| Bergmann, J. H. | P | 12.41 | 3.83 | 142 |
| Bolio, William | R | 12.28 | 3.77 | 18 |
| Brandley, F. J. and P. J. | R | 12.74 | 3.90 | 24 |
| Casey, James | P | 12.55 | 3.88 | 50 |
| Cashin, James | P | 12.73 | 4.07 | 22 |
| Cedar Hill | C | 13.79 | 4.85 | 22 |
| Chapin, George | P | 12.93 | 4.10 | 18 |
| Clapp, Frank L. | R | 12.42 | 3.70 | 20 |
| Clark, Levi | P | 12.38 | 3.65 | 36 |
| Coleman, David | P | 12.76 | 4.03 | 13 |
| Corkery, J. J. | P | 12.60 | 3.90 | 76 |
| Cosgrove, Martin S. | P | 12.59 | 3.70 | 52 |
| Cummings, F. S. | P | 12.35 | 3.75 | 18 |
| Cunningham, Paul | R | 12.68 | 3.85 | 11 |
| Dean, Louis W. | P | 13.06 | 4.18 | 9 |
| Deerfoot Farm | P | 12.79 | 4.07 | 18 |
| Denehy, Timothy | R | 13.26 | 4.30 | 50 |
| Driscoll, William B., Company | P | 12.50 | 3.78 | 21 |
| Edgerly, Frank S. | P | 12.46 | 4.10 | 20 |
| Elm Spring Farm | P | 12.28 | 3.70 | 17 |
| Ferguson, M. D. | P | 12.55 | 3.55 | 486 |

| Name of Dealer. | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria. Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| Garfield, Mason | R | 14.25 | 5.03 | 9 |
| Garvin, C. E. | P | 16.06 | 6.78 | 14 |
| Giroux, J. E. and H. J. | P | 12.40 | 3.75 | 24 |
| Griffin, Joseph L. | P | 12.62 | 3.73 | 22 |
| Gushee, C. W. | P | 12.72 | 3.92 | 22 |
| Herlihy Brothers | P | 12.26 | 3.67 | 35 |
| Hickey, M. J. | P | 12.38 | 3.78 | 18 |
| Holden, John E. | P | 12.66 | 3.88 | 33 |
| Hood, H. P., & Son | P | 12.44 | 3.85 | 22 |
| Hutchinson, F. T. | P | 12.20 | 3.68 | 17 |
| Jones, William T., Company | P | 12.90 | 4.10 | 24 |
| Kendall Brothers | P | 12.37 | 3.67 | 21 |
| Kingston, Samuel | P | 12.80 | 3.85 | 60 |
| Knapp, George J. | P | 12.46 | 3.78 | 36 |
| Lang Brothers | P | 12.42 | 3.78 | 34 |
| Larson, Charles | P | 12.31 | 3.65 | 20 |
| Le Baron, Frederick | R | 13.20 | 4.18 | 15 |
| Lincoln Farms | R | 11.95 | 3.60 | 13 |
| Lyndonville Creamery | P | 12.91 | 4.03 | 21 |
| Manning, Peter | P | 12.26 | 3.55 | 19 |
| McAdams, J. F. | P | 12.82 | 4.00 | 18 |
| McKernon, James | P | 12.53 | 3.80 | 24 |
| Munchback, George | P | 12.47 | 3.75 | 22 |
| New England Creamery Products Company | P | 12.69 | 3.95 | 23 |
| Pine Grove Dairy, Inc. | P | 12.52 | 3.78 | 22 |
| Robinson, A. J. | P | 13.46 | 4.65 | 26 |
| Schuster, Adam | P | 12.97 | 3.80 | 19 |
| Seven Oaks | P | 12.49 | 3.80 | 19 |
| Shick, Jacob | P | 12.21 | 3.50 | 22 |
| Somerset Farms | P | 13.00 | 4.05 | 13 |
| Sterling Farms Milk Company | P | 12.64 | 3.70 | 20 |
| Stone, H. L. | P | 12.56 | 3.78 | 24 |
| Stuart, W. E. | P | 12.42 | 3.80 | 24 |
| Turner Centre System | P | 12.39 | 3.70 | 20 |
| United Farmers Co-operative Creamery Company | P | 12.46 | 3.70 | 22 |
| Vartanian, S. | P | 12.24 | 3.75 | 20 |
| Vartanian, K. | P | 12.14 | 3.60 | 21 |
| Walker-Gordon | C | 12.86 | 4.13 | 6 |
| Weiller, E., & Sons | P | 12.69 | 3.96 | 70 |

| Name of Dealer. | Kind of Milk. | Solids. | Fat. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| | | Per Cent. | Per Cent. | |
| Westwood Farms | P | 12.41 | 3.75 | 25 |
| White Brothers | P | 12.61 | 3.91 | 17 |
| Whiting Milk Companies | P | 12.31 | 3.77 | 17 |
| Whittemore, W. D | P | 12.89 | 3.93 | 22 |
| Williams, Edward C | P | 13.02 | 4.45 | 70 |
| Wiswall, George A | P | 12.68 | 3.90 | 36 |
| Woodland, Charles L | P | 12.54 | 3.90 | 55 |

## CHAIN STORE MILK.

| Name of Dealer. | Supplied by. | Milk. | Solids. | Fat. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|---|
| | | Kind of. | Per Cent. | Per Cent. | |
| The Great Atlantic & Pacific Tea Company. | Hood & Sons | P | 12.57 | 3.80 | 71 |
| Brown, M., & Sons | Whiting Companies | P | 12.43 | 3.83 | 19 |
| Cloverdale Company | Turner Centre System | P | 12.43 | 3.73 | 20 |
| Economy Grocery Stores | Whiting Companies | P | 12.26 | 3.75 | 24 |
| First National Stores, Inc. | Bellows Falls Co-operative Creamery. | P | 12.70 | 4.00 | 19 |
| Morgan Brothers Company. | N. E. Creamery Products, | P | 12.65 | 3.93 | 38 |
| Winer, M | Hyman Winer | P | 12.71 | 3.98 | 22 |

## VITAL STATISTICS FOR MEDICAL MEN.

*(The following notes are a continuation of the series by Dr. Frederick L. Hoffman, consulting statistician, that began in the November, 1927, issue of the "Bulletin." As explained at that time, these notes will be so written as to make them readable and attractive to medical men, public health workers and laymen, and in such a manner that they will show their direct relation and value to the prevention of disease and prolongation of life.)*

### Deaths in the Army and Navy.

For probably no occupational group are there more useful and trustworthy morbidity and mortality statistics than for the United States Army and Navy. They extend over a long period of years and have usually been compiled with painstaking care and under qualified direction. The annual reports of the surgeon-general of the army and navy are, therefore, sources of the greatest possible medical value. Of course, all such statistics apply to a most carefully selected body of men, such as are not strictly comparable with corresponding returns for wage earners or others representing an

unselected group. The returns for officers in the army and navy are more useful because of continuity of service. Enlisted men frequently do not, as a rule, re-enlist and are replaced by new recruits, the death rates of which differ from those who have long been in the service. Particularly is this the case in the event of service in the tropics. The admission rates for all diseases in the United States Army since 1906 have been materially reduced, in fact to about one half during a period of twenty years. The outstanding cause of admission to sick report is bronchitis followed by tonsilitis, and nonsyphilitic venereal diseases. The admission rates differ for white and colored enlisted men and occasionally considerably so. They differ also widely for the different stations or localities, being highest for the Philippines and China and lowest for this country. During 1925 the admission rate for diseases for all troops was 518.69 per 1,000. It was 452.97 for officers and 532.52 for white enlisted men. The principal causes of death in 1925 show some surprising facts. The leading cause of death for the male military personnel was suicide with a rate of 0.31, followed by drowning with a rate of 0.29 and airplane accidents with a rate of 0.28. Next to these came tuberculosis with a rate of 0.23, automobile accidents with a rate of 0.21, and lobar pneumonia with a rate of 0.21, followed by homicide with the same rate and cancer with a rate of 0.13.

In the United States Navy the admission rate for all diseases in 1925 was 284.85 per 1,000. The rate for injuries was 35.88 per 1,000, aside from poisoning causing a rate of 0.85, or for all causes combined, a rate of 321.58 per 1,000. The leading cause of admission to sickness report in the United States Navy during 1925 was nonsyphilitic venereal diseases. It is regrettable that the reports of the army and the navy are not made up in precisely the same manner so that a precise comparison of the two is difficult. The death rate in the United States Navy in 1925 was only 3.6 per 1,000, due, of course, largely to the careful medical selection which eliminates those most likely to die during the early terms of naval service. The total death rate in the army during the year 1924 was 5.7 per 1,000.

## Hospital Statistics.

These have been frequently referred to as the wasted records of diseases. It is most regrettable that hospital medical statistics if given at all in the annual reports are frequently calculated with an utter disregard of established rules and principles of statistical practice. The importance of such statistics cannot easily be exaggerated. According to the last analysis published by the American Medical Association, there are now some 6,947 hospitals in the United States, having a total capacity of 859,443 beds exclusive of

hospitals in the United States possessions. In the Dominion of Canada, there are 458 hospitals with 62,500 beds. The United States Census Office has published a report for 1923 according to which there were in that year 4,978 hospitals reporting 373,475 beds, treating a total of over 5,104,604 patients. The total number of days reported was 81,609,383. There is thus an enormous hospital experience from which collective information would be of the greatest possible medical, social and economic value. The hospital is, as a rule, a public institution and accountable to the public for its medical and surgical results. Careful discrimination requires to be made as to the class of patients accepted. Hospitals specializing in particular forms of treatments are of particular importance. The American Medical Association for 1927 reports 270 such hospitals with a bed capacity of 155,962. For no institution is it more important to have detailed information than for hospitals specializing in the treatment of cancer and other malignant tumors. Many such hospitals are now equipped with a statistical department and a follow-up system. It is clearly realized that it is of the utmost importance to know what becomes of the patient discharged as improved or cured. For medical and surgical purposes, there is urgent need of a much larger statistical basis for most of the conclusions regarding the curative results which are at present relied upon. At the present time, however, few hospitals publish reports of real and lasting value to the medical profession. As a solution it has frequently been suggested that the United States Public Health Service should undertake the annual collection of hospital medical statistics on the basis of a hospital registration area in much the same manner as the reports of births and deaths by the Division of Vital Statistics of the Census. Such a solution would unquestionably go a long ways towards providing more advanced and trustworthy statistics than are at present available.

## Literature of Vital Statistics.

The literature of vital statistics contains many classics of outstanding importance. The most useful observations are those by the late Dr. William Farr, medical officer of the Registrar-General's office, London. They go back to 1843, I think, and form the basis of the development of vital statistics practically throughout the world. The principal observations of Doctor Farr were consolidated in a memorial volume published by the Royal Statistical Society in 1885. Early American vital statistics had their origin in the report of Doctor Shattuck of Boston, followed by Doctor Billings of the Army Medical Library in charge of the mortality investigations of the census in 1880, which were the first comprehensive studies made in this country. The late Dr. Samuel Abbott of the State Board of

Health did much to improve vital statistics, particularly with reference to the qualified treatment of particular diseases. Dr. Cressy Wilbur, state registrar of Michigan, was the first to be placed in charge of the Division of Vital Statistics of the Census, organized in 1900. He was followed by Dr. William H. Davis, formerly registrar of Boston, who has brought his annual reports of births and mortality to a remarkable degree of perfection. The annual reports of the Census Office are the chief source of vital statistics for what is known as the registration area, amplified, of course, by innumerable reports of states and localities of a widely varying degree of intrinsic value. The annual reports of the vital statistics of Massachusetts published by the Secretary of State for more than fifty years are also a source of information invaluable to the physician. Similar conclusions apply to the reports of the State Departments of Health of other New England states, and the states of New York and New Jersey.

The outstanding treatise on Vital Statistics by Sir Arthur Newsholme, one time medical officer of Brighton, England, and subsequently medical officer of the local government board, was first published in 1889. The work of Doctor Newsholme has recently appeared in a new edition entirely rewritten and with extended reference to American problems. Sir Arthur has frequently been in this country and has lectured at Harvard, the Johns Hopkins School of Health and elsewhere. The medical work of the Registrar-General's office is at present in charge of Dr. T. H. Stephenson. He is a worthy successor to his predecessors, Doctor Ogle and Dr. William Farr. The work of Sir Arthur Newsholme will, broadly speaking, be found sufficient for all ordinary medical purposes. It contains extended observations on standardized death rates, life tables and a statistical study of causation and correlation as a factor influencing life. A very useful treatise of recent date is by Dr. T. S. Falk, Department of Public Health, Yale University. The preparation of the United States life tables is in charge of Doctor Glover of the University of Michigan, Ann Arbor, who has published a series of admirable volumes through the Division of Vital Statistics of the Census.

*(To be continued.)*

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## MASSACHUSETTS CENTRAL HEALTH COUNCIL.

The first meeting of the newly reorganized Massachusetts Central Health Council was held on May 22 at the Twentieth Century Club, 3 Joy street, Boston.

After a short business session that was attended by the members of the Council and of the Administrative Board, the dinner took

place, followed by the program of the evening, which included two addresses: Dr. George H. Bigelow, Commissioner, Massachusetts Department of Public Health, "Are There Any Unsolved Problems?" Dr. Warren F. Draper, Assistant Surgeon-General, U. S. Public Health Service, "Accomplishments through Co-operation among Health Agencies."

The dinner and meeting was attended not only by members of the Council but by members of many organizations engaged in public health work in the Commonwealth as well as scores of their friends. The attendance at the first meeting of this reorganized association augurs well for future interest and the program that had been arranged was enjoyed by those who were fortunate enough to be present.

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## SUMMARY OF THE WORK, APRIL, 1928.

### BUREAU OF ADMINISTRATION.

| | | | |
|---|---|---|---|
| Prosecutions ordered | 5 | Personnel: | |
| Legal notices | 190 | Death of employee | 1 |
| Lying-in Hospital approved | 4 | Leave of absence | 4 |
| Contracts awarded | 2 | Appointments, permanent | 4 |
| Stable hearings | 2 | Appointments, provisional | 2 |
| Lodging houses certified | 4 | | |

### LICENSES, PERMITS, ETC., ISSUED.

| | | | |
|---|---|---|---|
| Beverage | 1 | Manicure-massage | 34 |
| Burial permits | 1,277 | Milk | 2,818 |
| Denatured alcohol | 330 | Offensive trades | 3 |
| Denatured alcohol license revoked | 1 | Ice cream | 47 |
| Dumps approved | 3 | Pedlers | 585 |
| " disapproved | 1 | Grease | 37 |
| Garbage | 5 | Stable permit, final | 1 |
| Manure | 1 | Stable permit, temporary | 1 |
| Hen licenses | 505 | To keep goats | 1 |
| | | Undertakers | 2 |

### MEDICAL DIVISION.

| | | | |
|---|---|---|---|
| Visits: | | Cases brought to Boston for treatment | 12 |
| By medical inspectors | 895 | Deaths investigated | 1 |
| By veterinarian | 260 | | |
| By investigator | 269 | | |

### NURSING SERVICE.

| | | |
|---|---|---|
| Homes Visited | | 17,421 |
| Child Hygiene: | | |
| Visits to new cases | 1,595 | |
| Visits to old cases | 8,194 | |
| Total | | 9,789* |

* Includes 130 wrong addresses; 1,059 not seen; 1,189 absent visits.

| | | |
|---|---|---|
| COMMUNICABLE DISEASES: | | |
| Visits to new cases | 1,750 | |
| Visits to old cases | 4,765 | |
| Total | | 6,515* |
| TUBERCULOSIS: | | |
| Visits to new cases | 236 | |
| Visits to old cases | 3,959 | |
| Total | | 4,195† |
| MISCELLANEOUS VISITS: | | |
| Infant death investigations | 112 | |
| Maternal death investigations | 9 | |
| Patients accompanied to hospitals | 3 | |
| Visits to day nurseries | 5 | |
| Visits to parochial schools | 53 | |
| Other special visits | 5 | |
| Posture clinics | 25 | |
| Total | | 212 |
| Total number of visits | | 20,499 |

| | Hours. |
|---|---|
| In stations by nurses | 3,102 |
| In baby conferences | 1,519 |
| In tuberculosis clinics | 780 |
| In posture clinics | 51 |
| In parochial schools | 69 |
| In nurses' conferences | 283 |
| Total number of hours | 5,806 |

## HEALTH UNITS.

| | |
|---|---|
| MISCELLANEOUS UNIT ACTIVITIES: | |
| Complaint of insanitary conditions | 246 |
| Number of persons given health and other information | 1,649 |
| City visitors | 42 |
| Out of city visitors | 4 |
| DENTAL SERVICE: | |
| Number of children's teeth cleaned | 235 |
| Number of children treated | 2,447 |
| Prophylaxis | 3,482 |
| EYE SERVICE: | |
| New cases | 32 |
| Number of refractions | 45 |
| Number of glasses prescribed | 16 |
| Number of examinations for diagnosis | 14 |

* Includes 56 wrong addresses; 155 not seen; 211 absent visits.

† Includes 43 wrong addresses; 452 not seen; 495 absent visits; 1,892 positive cases; 1,114 contact cases; 694 suspect cases—3,700.

CHILD HYGIENE DIVISION:

| | |
|---|---|
| Number of child health conferences | 30 |
| Total attendance at conferences | 1,248 |
| New babies at conferences | 188 |
| New preschool age children at conferences | 28 |
| Vaccinations performed | 46 |
| Vaccination certificates issued | 37 |
| Number of posture clinics | 164 |
| Total attendance at posture clinics | 366 |
| Toxin-antitoxin administrations | 28 |
| Examined for day nurseries | 79 |

TUBERCULOSIS CLINICS:

| | |
|---|---|
| Number of clinics | 44 |
| Attendance at tuberculosis clinics | 718 |
| New cases | 148 |
| X-ray examinations | 214 |

NURSING SERVICE:

| | |
|---|---|
| Homes visited by nurses | 4,986 |
| Total visits to babies and preschool children | 3,001 |
| Total communicable disease visits | 1,714 |
| Total tuberculosis visits | 1,516 |
| Infant death investigations | 42 |
| Special visits | 2 |
| Alpine lamp treatments | 170 |

NOSE AND THROAT SERVICE:

| | |
|---|---|
| Number of clinics | 4 |
| Number of children examined | 206 |
| Number of operations advised | 137 |

BOSTON LYING-IN HOSPITAL:

Pre-natal Clinic:

| | |
|---|---|
| Number of clinics | 12 |
| Attendance | 198 |
| New cases | 48 |

COMMUNITY HEALTH ASSOCIATION:

General Division:

| | |
|---|---|
| Home visits by nurses | 9,089 |

BOSTON DISPENSARY:

| | |
|---|---|
| Calls by district physician | 164 |

STATE DEPARTMENT OF MENTAL DISEASES:

| | |
|---|---|
| Number of clinics | 8 |
| Attendance at clinics | 24 |
| Visits of workers | 106 |
| New case | 1 |

| | |
|---|---|
| Infantile Clinic of Children's Hospital: | |
| Number of clinics | 8 |
| Attendance | 68 |

## FOOD INSPECTION DIVISION.

### MARKET, STORE AND RESTAURANT SERVICE.

| | |
|---|---|
| Reinspections | 310 |
| Stores inspected | 4,770 |
| Sanitary defects remedied | 151 |
| Complaints at office | 37 |
| Referred to Sanitary Division | 7 |
| Milk applicants | 11 |
| Notices to abate nuisances | 141 |
| Court cases | 4 |
| Approved | 2 |
| Conviction | 1 |
| Fines | $100 |
| Filed | 1 |
| Applications for pedlers' licenses approved | 119 |
| Vehicles inspected and approved | 589 |
| Laboratory Examinations: | |
| Bacteriological | 1 |
| Chemical | 10 |

#### CONDEMNATIONS.

| | | | |
|---|---|---|---|
| Meat: | | Fruit: | |
| Beef | 81 pounds | Apples | 25 boxes |
| Chicken | 4¾ pounds | Cherries | 5 gallons |
| Frankfurts | 20 pounds | Raisins | 90 packages |
| Fowl | 33 pounds | Strawberries | 31 crates |
| Ham | 20 pounds | Vegetables: | |
| Lamb | 36 pounds | Onions | 250 pounds |
| Livers | 10 pounds | Potatoes | 1 bag |
| Pork | 221 pounds | Tomatoes | 30 boxes |
| Poultry | 3½ pounds | Turnips | 400 pounds |
| Tongue | 1 pound | Miscellaneous: | |
| Turkey | 26 pounds | Candy | 49 cases |
| Veal | 204 pounds | Chocolate fudge | 210 pounds |
| Fish: | | Cocoa | 4 barrels |
| Anchovies | 33 gallons | Cereal | 1 bag |
| Miscellaneous fish | 1 barrel | Cheese | 1 keg |
| Sardines | 6 cans | Cheese | 79½ pounds |
| Scallops | 8 pounds | Herbs | 41 bags |
| | | Tea | 2 cases |

### LIVE STOCK INSPECTION (Brighton Abattoir).

| | | | |
|---|---|---|---|
| Cattle inspected | 3,330 | Parts condemned (lbs.) | 17,286 |
| Calves inspected | 9,373 | Animals condemned | 91 |
| Swine inspected | 4,126 | | |

## DAIRY DIVISION.

| | | | |
|---|---|---|---|
| Total inspection | 1,355 | Total cattle inspected | 3,852 |
| Dairies inspected | 241 | Inspections of milk plants and licensed dealers | 277 |
| Scoring above 50 * | 215 | Bacteriological examinations | 9 |
| Scoring below | 26 | Country creamery inspections | 25 |
| With milk rooms | 226 | Sediment tests | 776 |
| Without milk rooms | 15 | | |
| Inactive | 19 | | |

* Passable mark.

## BUREAU OF MILK INSPECTION.

### SAMPLES EXAMINED.

| | |
|---|---|
| CHEMICAL: | |
| Milk from wagons | 246 |
| Milk from stores | 530 |
| Milk brought by citizens | 11 |
| Vinegar | 17 |
| Meat | 1 |
| Water sewage | 4 |
| Tonics | 2 |
| Miscellaneous | 3 |
| BACTERIOLOGICAL: | |
| Milk | 522 |
| Ice cream | 104 |
| Court cases | 18 |
| Fines | $245 |

## SANITARY INSPECTION.

| | | | |
|---|---|---|---|
| Original inspections | 2,680 | Legal notices served | 183 |
| Reinspections | 6,838 | Complaints investigated | 561 |
| Nuisances abated | 1,610 | | |

## BACTERIOLOGICAL LABORATORY.

| | |
|---|---|
| Diphtheria | 800 |
| Tuberculosis | 547 |
| Typhoid | 34 |
| Gonorrhea | 783 |
| Gonorrheal ophthalmia | 83 |
| Malaria | 5 |
| Dark field | 2 |
| Genito-urinary tuberculosis | 12 |
| Syphilis | 1,263 |
| Other examinations * | 302 |
| Bacteriological examinations of milk | 522 |
| Bacteriological examinations of ice cream | 104 |
| Milk bottles examined | 13 |
| Milk bottle caps examined | 36 |
| Water from beaches for pollution | 23 |
| Water from swimming pools, etc. | 71 |

* Urines, 289; feces for B. typhosus, 3; smear for organisms, 1; milk from abscessed breast, 1; pork shoulder for poison, 1; cervical gland of hog for tuberculosis, 1; smears for Vincent's angina, 2; smear for virulence, 1; urine for B. typhosus, 3.

## MONTHLY REPORT OF VENEREAL DISEASE ACTIVITIES, APRIL, 1928.

### SYPHILIS.

| | |
|---|---|
| Current cases under investigation April 1, 1928 | 20 |
| New cases during April | 13 |
| Total | 33 |

#### Disposition of Cases.

| | |
|---|---|
| Under treatment | 2 |
| False address | 1 |
| Unable to locate | 3 |
| Moved out of town | 2 |
| Died | 1 |
| Under investigation April 30 | 24 |
| Total | 33 |
| New cases reported by number | 44 |

### GONORRHEA.

| | |
|---|---|
| Current cases under investigation April 1, 1928 | 68 |
| New cases during April | 62 |
| Total | 130 |

#### Disposition of Cases.

| | |
|---|---|
| Under treatment | 23 |
| False address | 18 |
| Unable to locate | 23 |
| Moved out of town | 5 |
| Under investigation April 30 | 61 |
| Total | 130 |
| New cases reported by number | 175 |

### SUMMARY.

| | |
|---|---|
| Current cases under investigation April 1, 1928 | 88 |
| New cases during April | 75 |
| Total | 163 |

#### Disposition of Cases.

| | |
|---|---|
| Under treatment | 25 |
| False address | 19 |
| Unable to locate | 26 |
| Moved out of town | 7 |
| Died | 1 |
| On hand April 30, 1928 | 85 |
| Total | 163 |
| Visits by venereal investigator | 269 |

### COMPLAINTS AND SOURCES OF INFECTION.

| | |
|---|---|
| Placed under treatment | 2 |
| Unable to locate | 1 |
| Total | 3 |
| Venereal deaths investigated | 4 |

# REPORT OF TUBERCULOSIS DIVISION, APRIL, 1928.

In the month of April, there were 115 clinic sessions held in the ten clinics. Distribution of clinics was as follows:

| | |
|---|---|
| At the South End Health Unit | 17 |
| At the East Boston Health Unit | 11 |
| At the North End Health Unit | 12 |
| At the West End Health Unit | 13 |
| At the South Boston Health Unit | 9 |
| At the Boston Dispensary Unit | 24 |
| At the Brighton Health Unit | 8 |
| At the Charlestown Health Unit | 7 |
| At the Codman Square Health Unit | 7 |
| At the Hyde Park Health Unit | 7 |
| Total number of cases | 115 |

| Districts. | Total Number Cases at Clinics. | | | Total Number of New Cases at Clinics. | | |
|---|---|---|---|---|---|---|
| | Adult. | Children. | Total. | Adult. | Children. | Total. |
| South End | 189 | 132 | 321 | 43 | 27 | 70 |
| East Boston | 66 | 107 | 173 | 11 | 22 | 33 |
| North End | 65 | 109 | 174 | 13 | 26 | 39 |
| West End | 61 | 74 | 135 | 10 | 12 | 22 |
| South Boston | 107 | 104 | 211 | 29 | 29 | 58 |
| Boston Dispensary | 98 | 48 | 146 | 14 | 10 | 24 |
| Brighton | 38 | 26 | 64 | 11 | 2 | 13 |
| Charlestown | 29 | 22 | 51 | 3 | 3 | 6 |
| Codman square | 81 | 65 | 146 | 32 | 16 | 48 |
| Hyde Park | 20 | 42 | 62 | 6 | 11 | 17 |
| Totals | 754 | 729 | 1,483 | 172 | 158 | 330 |

| Districts. | Von Pirquet. | Wassermann. | Lamp. | X-Ray. |
|---|---|---|---|---|
| South End | 24 | 29 | 194 | 192 |
| East Boston | 12 | 2 | 91 | 56 |
| North End | 25 | 3 | 38 | 113 |
| West End | 21 | 9 | — | — |
| South Boston | 52 | 22 | 84 | 75 |
| Boston Dispensary | 18 | 5 | — | — |
| Brighton | 2 | 4 | — | — |
| Charlestown | 12 | 1 | — | — |
| Codman square | 16 | 6 | — | — |
| Hyde Park | 12 | 3 | — | — |
| Totals | 194 | 84 | 407 | 436 |

## TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING APRIL, 1928.

| Classification. | Number. | Percentage. |
|---|---|---|
| After death | 15 | 29.41 |
| Seven days or less | 6 | 11.76 |
| Eight to fourteen days, inclusive | 3 | 5.88 |
| Fifteen to twenty-one days, inclusive | 2 | 3.92 |
| Twenty-two to thirty-one days, inclusive | 1 | 1.96 |
| Within First Month. (Total) | 27 | 52.93 |
| Within second month | 3 | 5.88 |
| Within third month | 2 | 3.92 |
| Within fourth month | 3 | 5.88 |
| Within fifth month | 1 | 1.96 |
| Within sixth month | — | — |
| Within seventh month | 1 | 1.96 |
| Within eighth month | — | — |
| Within ninth month | — | — |
| Within tenth month | 2 | 3.92 |
| Within eleventh month | 1 | 1.96 |
| Within twelfth month | — | — |
| Within First Year Preceding Death. (Total) | 40 | 78.41 |
| Within second year | 2 | 3.92 |
| Within third year | 2 | 3.92 |
| More than three years | 7 | 13.73 |
| Grand totals | 51 | 99.98 |

# CHILD HYGIENE DIVISION.

## REPORT OF ACTIVITIES OF MEDICAL INSPECTORS APRIL, 1928.

| | |
|---|---|
| Inspections | 569 |
| Physical examinations made | 80 |
| Toxin-antitoxin administrations | 982 |
| Vaccinations | 65 |
| Vaccination certificates issued | 14 |
| Day nursery visits | 48 |
| Parochial school visits | 11 |
| Conferences | 9 |

## REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES FOR APRIL, 1928.

| Station. | Toxin–Antitoxin. | | | | Number of Vaccinations. |
|---|---|---|---|---|---|
| | First. | Second. | Third. | Total. | |
| Old Town Hall, Brighton | 1 | 1 | 4 | 6 | 4 |
| 31 Lincoln street, Brighton | — | — | — | — | 5 |
| Charlestown Municipal Building | 4 | 1 | 1 | 6 | 8 |
| Codman Square Library | 6 | 5 | 7 | 18 | 9 |
| Columbia Road Municipal Building | — | 2 | — | 2 | 16 |
| 1 Arcadia street, Dorchester | — | — | — | — | 1 |
| East Boston Health Unit | — | — | — | — | — |
| Hyde Park Municipal Building | 2 | 2 | 2 | 6 | 11 |
| Curtis Hall, Jamaica Plain | 2 | — | — | 2 | 12 |
| North End Health Unit | 1 | — | 1 | 2 | — |
| Roslindale Municipal Building | — | — | — | — | 4 |
| Beth Israel Hospital | — | — | 2 | 2 | — |
| Children's Hospital | 3 | 1 | — | 4 | 2 |
| 1049 Columbus avenue | — | — | — | — | 20 |
| Vine Street Municipal Building | — | — | 1 | 1 | 17 |
| 133 Dorchester street, South Boston | 4 | 2 | 3 | 9 | 3 |
| 122 Tyler street | — | 3 | 1 | 4 | 2 |
| Shawmut Avenue Municipal Building | 3 | 4 | 4 | 11 | 3 |
| 57 East Concord street | 5 | 7 | 4 | 16 | 3 |
| 17 Blossom street | — | — | — | — | — |
| Totals | 31 | 28 | 30 | 89 | 120 |

## MONTHLY REPORT OF CHILD HEALTH CONFERENCES APRIL, 1928.

| Station. | Number of Babies. | Number of Pre-school. | Total Attendance. | Number of New Babies. | Number of New Preschool. | Total New Cases. | Number of Conferences. | Average Attendance. |
|---|---|---|---|---|---|---|---|---|
| Old Town Hall, Brighton | 180 | 8 | 188 | 28 | 3 | 31 | 4 | 47 |
| 31 Lincoln street, Brighton | 47 | 13 | 60 | 8 | 1 | 9 | 3 | 20 |
| Charlestown Municipal Building | 253 | 21 | 274 | 16 | — | 16 | 9 | 30 |
| Codman Square Library | 258 | 47 | 305 | 47 | 9 | 56 | 9 | 34 |
| Columbia Road Municipal Building | 392 | 1 | 393 | 47 | — | 47 | 9 | 44 |
| 1 Arcadia street, Dorchester | 243 | 15 | 258 | 29 | 3 | 32 | 7 | 37 |
| East Boston Health Unit | 352 | 21 | 373 | 66 | 4 | 70 | 8 | 47 |
| Hyde Park Municipal Building | 175 | 17 | 192 | 22 | 1 | 23 | 5 | 38 |
| Curtis Hall, Jamaica Plain | 177 | 20 | 197 | 31 | 5 | 36 | 4 | 49 |
| North End Health Unit | 145 | 53 | 198 | 22 | 8 | 30 | 7 | 28 |
| Roslindale Municipal Building | 202 | 44 | 246 | 31 | 7 | 38 | 5 | 49 |
| Beth Israel Hospital | 104 | 4 | 108 | 17 | — | 17 | 3 | 36 |
| Children's Hospital | 97 | 12 | 109 | 20 | 1 | 21 | 4 | 27 |
| 1049 Columbus avenue | 249 | 14 | 263 | 42 | 4 | 46 | 7 | 38 |
| Vine Street Municipal Building | 266 | 5 | 271 | 45 | 1 | 46 | 8 | 35 |
| 133 Dorchester street, South Boston | 270 | 24 | 294 | 46 | 5 | 51 | 7 | 42 |
| 122 Tyler street | 66 | 17 | 83 | 11 | 1 | 12 | 4 | 21 |
| Shawmut Avenue Municipal Building, | 114 | 28 | 142 | 20 | 4 | 24 | 4 | 36 |
| 57 East Concord street | 113 | 16 | 129 | 17 | 3 | 20 | 3 | 43 |
| 17 Blossom street | 347 | 58 | 405 | 32 | 2 | 34 | 8 | 51 |
| Totals | 4,008 | 438 | 4,446 | 593 | 62 | 655 | 117 | 38 |

# VITAL STATISTICS, APRIL, 1928.

## BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING APRIL, 1928, WITH COMPARATIVE FIGURES FOR APRIL, 1927.

| | BIRTHS AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **All Causes:** | | | | | | |
| Total deaths | **1,096** | 1,022 | +74 | **16.46** | 15.46 | +1.00 |
| Nonresidents deducted | **887** | 818 | +69 | **13.32** | 12.38 | +.94 |
| **By Age:** | | | | | | |
| Under one year | **171** | 122 | +49 | **2.57** | 1.85 | +.72 |
| One year to four years, inclusive | **65** | 51 | +14 | **.97** | .77 | +.20 |
| Sixty years and over | **449** | 419 | +30 | **6.74** | 6.34 | +.40 |
| **By Special Causes:** | | | | | | |
| Degenerative Diseases, So Called: | | | | | | |
| Apoplexy | **57** | 52 | +5 | **.85** | .79 | +.06 |
| Arteriosclerosis | **24** | 18 | +6 | **.36** | .27 | +.09 |
| Heart disease | **238** | 184 | +54 | **3.57** | 2.78 | +.79 |
| Nephritis, chronic | **53** | 65 | —12 | **.79** | .98 | —.19 |
| Infant and Maternal Mortality: | | | | | | |
| *a.* Total registered live births | **1,212** | 1,266 | —54 | **18.20** | 19.16 | —.96 |
| *b.* Registered stillbirths | **39** | 47 | —8 | **.58** | .71 | —.13 |
| Stillbirths per 1,000 births and stillbirths | — | — | — | **31.17** | 35.79 | —4.62 |
| *c.* Deaths of mothers from causes incident to childbirth | **5** | 13 | —8 | **.07** | .20 | —.13 |
| Deaths of mothers per 1,000 births and stillbirths | — | — | — | **4.00** | 9.90 | —5.90 |
| Deaths of children in first year of life | **171** | 122 | +49 | **2.57** | 1.85 | +.72 |
| Deaths in first year per 1,000 live births, | — | — | — | **141.09** | 96.37 | +44.72 |
| Violence: | | | | | | |
| Accidents | **46** | 55 | —9 | **.70** | .83 | —.13 |
| Homicides | **2** | 3 | —1 | **.03** | .04 | —.01 |
| Suicides | **14** | 7 | +7 | **.21** | .10 | +.11 |
| Miscellaneous: | | | | | | |
| Alcoholism, acute or chronic | **13** | 14 | —1 | **.19** | .21 | —.02 |
| Broncho-pneumonia | **112** | 69 | +43 | **1.68** | 1.04 | +.64 |
| Cancer | **87** | 119 | —32 | **1.31** | 1.80 | —.49 |
| Cirrhosis of the liver | **6** | 5 | +1 | **.09** | .07 | +.02 |
| Diabetes mellitus | **24** | 20 | +4 | **.36** | .30 | +.06 |
| Diarrheal diseases, children under two years of age | **21** | 9 | +12 | **.31** | .14 | +.17 |

| | CASES AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| Communicable Diseases: | | | | | | |
| Anterior poliomyelitis.....Cases.. | — | 1 | —1 | — | .015 | —.015 |
| Deaths. | — | — | — | — | — | — |
| Cerebrospinal meningitis.....Cases.. | — | 9 | —8 | — | .14 | —.14 |
| Deaths. | — | 7 | —7 | — | .10 | —.10 |
| Diphtheria.....Cases.. | 108 | 122 | —14 | 1.62 | 1.85 | —.23 |
| Deaths. | 10 | 8 | +2 | .15 | .12 | —.03 |
| Influenza.....Cases.. | 18 | 36 | —18 | .27 | .54 | —.27 |
| Deaths. | 5 | 3 | +2 | .07 | .04 | +.03 |
| Measles.....Cases.. | 1,214 | 372 | +842 | 18.23 | 5.63 | +12.60 |
| Deaths. | 18 | 2 | +16 | .27 | .03 | +.24 |
| Pneumonia (lobar).....Cases.. | 220 | 153 | +67 | 3.30 | 2.31 | +.99 |
| Deaths. | 73 | 61 | +12 | 1.10 | .92 | +.18 |
| Scarlet fever.....Cases.. | 271 | 484 | —213 | 4.07 | 7.32 | —3.25 |
| Deaths. | 3 | 4 | —1 | .04 | .06 | —.02 |
| Tuberculosis (pulmonary).....Cases.. | 153 | 136 | +17 | 2.30 | 2.06 | +.24 |
| Deaths. | 51 | 53 | —2 | .76 | .80 | —.04 |
| Tuberculosis (other forms).....Cases.. | 43 | 18 | +25 | .64 | .27 | +.37 |
| Deaths. | 4 | 9 | —5 | .06 | .14 | —.08 |
| Typhoid fever.....Cases.. | 2 | 2 | — | .03 | .03 | — |
| Deaths. | 1 | 1 | — | .015 | 0.15 | — |
| Whooping cough.....Cases.. | 192 | 80 | —112 | 2.88 | 1.21 | +1.67 |
| Deaths. | 7 | 5 | +2 | .10 | .07 | +.03 |

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1928 (mid-year), based upon the federal census of 1920, has been used.

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MONTHLY BULLETIN

# HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the EDITOR MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

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## IMMUNITY.

From 1880 to 1890 there was an annual average of about 100 deaths a year in Boston attributed in death certificates to scarlet fever. For the period from 1901 to 1905 the average had fallen below 90 deaths annually. From 1906 to 1915 the annual average had come down to 66. For the last five years it has averaged 49. There is no reason to believe that the recording of deaths from this disease is any less complete than it was twenty-five years ago and in the meantime the population of the city has been continually increasing.

To put the matter in another way, something has been taking place in Boston during the last twenty-five years to reduce the average annual scarlet fever death rate in Boston from above 15 to about 6 per 100,000 of population.

As nearly as can be judged from the statistical information of that time, the average death rate from tuberculosis in Boston at the outbreak of the Civil War was about 470 per 100,000 of population. By the time tubercle bacillus was discovered and the means of transmitting the disease was demonstrated in the eighties, the annual death rate had fallen below 300. At the beginning of the present century, before organized efforts directed specifically to the preven-

tion of treatment of tuberculosis could conceivably have made any impression on tuberculous infection, the death rate in Boston was down to 200 per 100,000.

During the period from 1914 to 1918, Boston participated in a widespread increase in mortality from tuberculosis even though organized antituberculosis work was being carried on more actively than ever before, but with this exception the tendency of the death rate from tuberculosis has been constantly downward. In 1927 it was 75.8.

In 1881 there were 800 recorded deaths from diphtheria in Boston, and the average annual deaths at that time were above 500. A decline in the recorded deaths became marked after antitoxin treatment was introduced in the nineties. But before antitoxin was discovered it was evident from statistics of recognized cases, as well as from clinical experience, that for some reason diphtheria was becoming a less serious disease than it had been.

At the beginning of this century, deaths were down to about 200 a year, making a death rate of approximately 30 per 100,000. In 1926 there were 54 deaths from diphtheria in Boston. The death rate was 6.9 per 100,000.

The routine practice of administering antitoxin in the treatment of diphtheria has undoubtedly reduced mortality from the disease, but the unquestionable decrease in recognizable cases of the disease indicates that this is not the whole story.

We do not believe that we are mistaken in attributing the sudden drop in mortality in 1925 and 1926 to activity in artificially immunizing children against diphtheria, but the unlooked for increase in cases and deaths last year in Boston and in other places where artificial immunization was being carried on indicates clearly that there is some other factor to be taken into account.

On the other hand, diseases other than those mentioned in the foregoing may be cited as examples of contact diseases which have shown no such evidence of decrease in prevalence or dimunition in fatality during the decades under consideration.

As nearly as can be determined from unsatisfactory statistical data the case rate and death rate from the various kinds of pneumonia in Boston has remained fairly constant, with a tendency to mount rapidly when an unusual prevalence of a predisposing cause, like influenza, has occurred.

There is no evidence that acute respiratory infections, including "common colds" with their complications, have lost any of their seriousness.

There is neither statistical nor clinical evidence that the dangers from measles or whooping cough are any less or different from what

they were fifty years ago. The relatively high annual mortality which has occasionally occurred from these diseases has been probably due to exceptional conditions favoring pneumonia infections.

If cardio-vascular degeneration be a manifestation of an infective process, as some believe, and if deductions from statistical data are to be trusted, we have here an infection of increasing importance as a cause of mortality.

In our present stage of knowledge we cannot presume to enumerate all the factors which determine the prevalence or the virulence of a disease in a given community. Certain factors may be apparent but beneath the surface obscure biological laws are always operative in determining susceptibility or resistance to pathogenic influences in any collection of beings, human or otherwise.

A fortuitous combination of factors unfavorable to life may explain a temporary increase or decrease in animal, or in human mortality. A progressive decrease in the deaths from a certain disease may not mean that the community has "determined its death rate" from the disease by liberal appropriations for the purpose, nor does the failure of a disease to decrease in prevalence necessarily indicate that not enough money is being spent on schemes for the promotion of public health.

It is possible, however, to identify, beyond a reasonable doubt, some of the influences which have operated during the past fifty years to decrease the morbidity and mortality of certain of the diseases mentioned in the foregoing and have failed to do so with respect to others.

For many years well organized and generally approved quarantine measures have been applied in Boston to the control of scarlet fever, diphtheria and measles and less strictly to tuberculosis.

An epidemic of scarlet fever, diphtheria, or measles among susceptibles who are under control can always be stopped by the immediate isolation of contacts on the first indication of elevation of bodily temperature, provided, of course, effective means be taken concurrently to prevent the spread of infection by contaminated eating or drinking utensils or hands. With the same proviso, an epidemic may perhaps be stopped under such conditions even if isolation be delayed until visible indications of beginning sickness may be detected in a person's appearance or actions. An epidemic of diphtheria can probably be stopped without recourse to culturing by the isolation of contacts whose throats show any abnormal condition, acute or chronic. But the spread of these diseases among susceptibles was never stopped if measures for the protection of susceptible contacts were delayed until symptoms of sickness were sufficiently developed to make a diagnosis possible. When

such a procedure has apparently succeeded, it has been because the contacts were largely immunes.

Contagious diseases are all dangerous to others for varying periods before a diagnosis can be made. In spite of official quarantine procedure and efforts at public education a case of scarlet fever, diphtheria or measles, chicken pox, whooping cough or any other contact disease is seldom isolated or quarantined in Boston before all the other members of the family have had ample opportunity to become infected. If, therefore, any of these diseases show a marked tendency to decrease in prevalence or virulence, we must look for other reasons therefor besides conventional quarantine practices.

Any sanitary measures resulting in a better state of cleanliness with respect to the food, drink or environment of a community may be expected to be followed by a decrease in the death rate,— even from diseases which cannot be thereby directly affected.

A better water supply, the introduction of a sewerage system, or more efficient methods for the removal of other wastes will be followed by a drop in the death rate even of tuberculosis. It is conceivable that the displacement of horses by automobiles with a consequent lessening of opportunity for the breeding of flies may be a factor in the decrease in infant mortality so generally to be noted in our larger cities in recent years.

Wherever food is abundant in quantity and variety, life tends to increase, whether it be animal, insect or human. Among human beings this is a matter which is in the main determined by economic conditions. The death rate from tuberculosis and infant mortality are particularly sensitive to industrial depression or increase in the "cost of living." Expenditures for health promotion projects defeat their own purpose if they lead to taxation which discourages new industrial enterprises. In those European countries where the Treaty of Versailles has brought about economic conditions making it financially impossible for farmers to market clean milk or for the consumers to pay for pasteurization, the infant mortality must remain frightfully high until somehow economic conditions are improved. Porto Rico furnishes a good concrete example of the futility of putting health promotion projects ahead of improvement in economic conditions.

Plentiful food, physical activity and an environment favorable to vital functions may increase resistance to the pathogenic organisms.

It seems to be a biological principle also that the virulence of pathogenic organisms is promoted by passing them successively through highly susceptible animals, and decreased by inoculating more resistant animals. It would seem possible that this principle may be involved in the changing character of certain diseases with the

passage of time, as, for example, the disappearance of malaria from some districts in this country, where it was formerly a scourge, and in the decrease in the practical importance of bubonic plague in more recent years.

Life, too, may be expected to be favored by preventing the contact of individuals with agencies which may possibly be harmful. This is the way in which some of the most conspicuous achievements in the promotion of public health in modern times have been accomplished, but there is another phase to this matter.

On the other hand, an organism may acquire strength and increased vitality by contending with adverse influences which are not overwhelming. The preservation of the grape culture in Europe seems to depend upon the replacement of vines by stock from America which is resistant to the phyllox era. The chestnut trees in this country which have developed an effective resistance to the "blight" will probably save the species from extinction. The recruit who has had measles is more desirable as a soldier than one who has never been exposed to the disease.

Human efficiency is not promoted by ease of existence. The practical usefulness of people depends not upon their numbers or the rapidity of individual growth, but upon their mental, moral and physical ability to overcome obstacles to their well-being.

Modern progress in the protection of public health has not prevented the disastrous experience of the human race with cerebrospinal meningitis, poliomyelitis, encephalitis and the influenza during the last twenty-five years. Moreover, the mortality from all has occurred almost entirely in the younger generations which — to a greater extent certainly than older persons — have been the beneficiaries of modern preventive medicine. The operation of natural law in these epidemics is further suggested by the fact that the mortality from the influenza, the greatest the world had ever seen from any of the periodic epidemics of the disease, was followed by the lowest annual death rates ever recorded.

All the influences referred to in the foregoing have doubtless been operative in determining the record of morbidity and mortality in Boston of all the diseases which have been mentioned in this article. In this record, however, the tendency of immunity to manifest itself is especially interesting.

To take scarlet fever in Boston, for example. Occasionally a secondary contact case of scarlet fever may develop in a family after a child who has been taken sick with scarlet fever at home and sent to the hospital is discharged and returns to his household, presumably free from infection, but far more often at the present time only one case of scarlet fever will occur in a family of children, even though the

patient lives under conditions of most intimate contact with the other children until desquamation leads to the recognition of the disease. In so far as Dick testing has been done in Boston, it tends to confirm a high proportion of immunity to scarlet fever among children, especially in the more crowded districts.

Moreover, the prevalent type of scarlet fever as seen in Boston is often so mild as to make it necessary to await desquamation to establish the diagnosis. Occasionally, highly virulent or malignant cases still occur.

It might seem that scarlet fever is undergoing a change in Boston such as has taken place in Rio de Janiero. It is stated that while scarlet fever was formerly not uncommon in Rio de Janiero, no recognizable cases of the disease are seen there now, yet the Dick test indicates a very high degree of immunity in the population.

A few years ago, in connection with the work of immunizing children artificially against diphtheria in Boston, the Schick test was employed extensively. The result showed an astonishing variation in the proportion of positive reactions in different parts of the city, indicating a much greater percentage of susceptibles where living conditions were better.

That the development of immunity has played an important part in the decrease in the death rate from tuberculosis, which has been going on in Boston for at least seventy years, there can be no doubt. The only questions are, the extent to which immunity has been accountable for the decrease and just how it has been produced. The great decrease in clinical forms of active tuberculosis indicating bovine infection must be credited to the pasteurization of milk, but it is generally conceded that a child born in Boston somehow still gets dosed with the tubercle bacilli very early in life.

With measles it would seem there is a somewhat different story to tell. The infant acquires from its mother an immunity which soon disappears. Before a child reared in Boston reaches the age of sixteen, he has developed immunity to measles by an actual recognizable attack of measles, possibly an atypical or an abortive case, but recognizable now that we have come to recognize such manifestations of the disease.

Even with respect to this disease, however, something has undoubtedly developed in our population to prevent the high mortality, which occurs when measles is introduced in regions where it has hitherto been unknown.

When we come to consider the part which immunity may be playing with respect to the prevalence of pneumonia, or common colds, we become involved with another aspect of immunity — the possibility of its disappearance.

Progress is constantly being made in the acquisition of knowledge enabling us to deal intelligently with the queries raised by the foregoing observations regarding the tendency of diseases to change in prevalence and importance. The presentation of this knowledge now forms a part of the curriculum of schools designed to prepare men and women for public health work for positions of official responsibility involving the preparation of programs to tax communities for the promotion of their health.

An especially concise and interesting exposition of the subject was presented at the Johns Hopkins School of Hygiene and Public Health in the autumn of 1926, in two lectures, entitled, "Natural Immunity and Its Significance for Epidemiology" and "The Variability of Bacteria," by Prof. F. Newfield, Director, Robert Kock Institute for Infectious Diseases, Berlin.

## SMALLPOX IN BOSTON.

Four cases of smallpox were discovered in this city during the month of May, three adults and one child. Two of the cases had recovered before coming to the attention of the Health Department, and it was through the last two cases that it was found that two other cases had existed and cleared up. All cases were living in the South End section of the city and a contact has been established among all four. All contacts were vaccinated and the two existing cases were removed to the Detention Hospital. A letter was sent to all physicians in Boston calling their attention to the existence of these cases and further stating that the diagnostic services of the department were at the disposal of all physicians in the event of their discovery of anything that looked suspicious of smallpox. No other cases have since been reported and it appears that this flurry is now over.

## DEPUTY COMMISSIONERS ON LEAVE.

During the month there were granted leaves of absence for a period of one year to two Deputy Commissioners, one, Dr. P. H. Mullowney in charge of the Food Division, and the other to Dr. Charles F. Wilinsky in charge of the Division of Child Hygiene. Doctor Mullowney has accepted an appointment with the Boston *Evening American* to conduct a campaign against the sale of impure food, as well as to write a series of articles for that newspaper to educate the people of the city against many of the sharp practices indulged in by some food purveyors.

Doctor Wilinsky has accepted an appontment as Director of the New Beth Israel Hospital, costing $3,500,000, and one of the finest hospital structures in the country, and equipped with the latest and modern appliances used in medicine and surgery.

## SURVEY OF THE QUALITY OF MILK SOLD BY BOSTON WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during May, 1928. Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat; for bacteria it is required that it contain per cubic centimeter not more than 100,000 in pasteurized milk and in raw milk; and not more than 10,000 in certified milk.

### Key to Kind of Milk.

P means pasteurized milk.

C means raw certified milk, the only kind sold by this dealer.

R means raw milk from accredited herds of tuberculin-tested cows, the only kind sold by this dealer.

| Name of Dealer. | Kind of Milk. | Solids. | Fat. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| | | Per Cent. | Per Cent. | |
| Allen, Fred H. | P | 12.22 | 3.80 | 40 |
| Antetomasso, Peter | P | 12.34 | 3.83 | 18 |
| Barron, C. W. | C | 14.36 | 5.20 | 10 |
| Bergmann, J. H. | P | 12.65 | 3.90 | 42 |
| Bolio, William | R | 12.56 | 4.07 | 14 |
| Brandley, F. J. & P. J. | R | 12.56 | 3.85 | 24 |
| Casey, James | P | 13.40 | 4.40 | 40 |
| Cashin, James | P | 12.50 | 3.85 | 42 |
| Cedar Hill | C | 13.76 | 4.78 | 21 |
| Chapin, George | P | 12.63 | 3.90 | 21 |
| Clapp, Frank L. | R | 11.82 | 3.30 | 41 |
| Clark, Levi | P | 12.06 | 3.55 | 60 |
| Coleman, David | P | 12.08 | 3.62 | 19 |
| Corkery, J. J. | P | 12.40 | 3.80 | 24 |
| Cosgrove, Martin S. | P | 12.76 | 3.92 | 82 |
| Cummings, F. S., Company | P | 12.35 | 3.77 | 19 |
| Cunningham, Paul | R | 12.53 | 3.65 | 18 |
| Dean, Louis W. | P | 12.94 | 4.30 | 26 |
| Deerfoot Farm | P | 12.83 | 4.10 | 42 |
| Denehy, Timothy | P | 12.63 | 3.50 | 17 |
| Driscoll, William B., Company | P | 12.46 | 3.89 | 17 |
| Edgerly, Frank S. | P | 12.52 | 4.08 | 24 |
| Elm Spring Farm | P | 12.50 | 3.86 | 51 |
| Ferguson, M. D. | P | 12.56 | 3.68 | 26 |

| Name of Dealer. | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| Garfield, Mason | R | 14.76 | 5.20 | 18 |
| Garvin, C. E. | P | 15.07 | 5.78 | 19 |
| Giroux, J. E. & H. J. | P | 12.48 | 3.73 | 114 |
| Griffin, Joseph L. | P | 12.48 | 3.65 | 18 |
| Gushee, C. W. | P | 12.75 | 3.93 | 28 |
| Herlihy Brothers | P | 12.24 | 3.64 | 43 |
| Hickey, M. J. | P | 12.46 | 3.75 | 18 |
| Holden, John E. | P | 12.56 | 3.95 | 24 |
| Hood, H. P., & Son | P | 12.64 | 3.99 | 18 |
| Hutchinson, F. T. | P | 12.39 | 3.68 | 21 |
| Jones, William T., Company | P | 12.75 | 3.95 | 20 |
| Kendall Brothers | P | 12.48 | 3.75 | 23 |
| Kingston, Samuel | P | 12.89 | 4.02 | 81 |
| Knapp, George J. | P | 12.40 | 3.73 | 36 |
| Lang Brothers | P | 12.44 | 3.85 | 18 |
| Larson, Charles | P | 12.67 | 4.20 | 20 |
| LeBaron, Frederick | R | 13.68 | 4.60 | 85 |
| Lincoln Farms | R | 12.65 | 4.05 | 42 |
| Ludwig Brothers | P | 13.22 | 4.33 | 30 |
| Lyndonville Creamery | P | 12.93 | 4.18 | 15 |
| Manning, Peter | P | 12.72 | 3.73 | 20 |
| McAdams, J. F. | P | 12.94 | 4.13 | 21 |
| McKernan, James | P | 12.36 | 3.85 | 26 |
| Munchback, George | P | 12.45 | 3.80 | 29 |
| New England Creamery Products Company | P | 12.70 | 3.98 | 24 |
| Pine Grove Dairy, Inc. | P | 11.97 | 3.73 | 22 |
| Robinson, A. J. | P | 12.95 | 4.23 | 62 |
| Schuster, Adam | P | 12.64 | 3.80 | 24 |
| Seven Oaks | P | 12.52 | 3.89 | 22 |
| Shick, Jacob | P | 12.71 | 3.83 | 29 |
| Somerset Farms | P | 13.20 | 4.40 | 18 |
| Sterling Farms Milk Company | P | 12.72 | 3.70 | 20 |
| Stone, H. L. | P | 12.42 | 3.80 | 21 |
| Stuart, W. E. | P | 12.64 | 3.77 | 18 |
| Turner Center System | P | 12.47 | 3.84 | 17 |
| United Farmers' Co-operative Creamery Company | P | 12.60 | 3.90 | 18 |
| Vartanian, S. | P | 12.12 | 3.60 | 24 |
| Walker-Gordon | C | 12.62 | 4.01 | 7 |
| Weiller, E., & Sons | P | 12.74 | 4.08 | 32 |

| Name of Dealer. | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| Westwood Farms | P | 12.42 | 3.80 | 16 |
| White Brothers | P | 12.84 | 3.90 | 19 |
| Whiting Milk Companies | P | 12.38 | 3.79 | 23 |
| Whittemore, W. D. | P | 12.73 | 3.95 | 22 |
| Williams, Edward C. | P | 12.65 | 4.20 | 13 |
| Wiswall, George A. | P | 12.44 | 3.73 | 32 |
| Woodland, Charles L. | P | 12.62 | 3.85 | 26 |

## CHAIN STORE MILK.

| Name of Dealer. | Supplied by. | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|---|
| The Great Atlantic & Pacific Tea Company. | Hood & Sons | P | 12.11 | 3.70 | 26 |
| Brown, M., & Sons | Whiting Companies | P | 12.29 | 3.77 | 20 |
| Cloverdale Company | Turner Centre System | P | 12.65 | 3.93 | 24 |
| Economy Grocery Stores | Whiting Companies | P | 12.45 | 3.83 | 38 |
| First National Stores, Inc. | Bellows Falls Co-operative Creamery. | P | 12.80 | 4.08 | 16 |
| Morgan Brothers Company. | New England Creamery Products Company. | P | 12.66 | 4.00 | 38 |
| Winer, M., Company | Hyman Winer | P | 12.65 | 3.93 | 16 |

## VITAL STATISTICS FOR MEDICAL MEN.

*(The following notes are a continuation of the series by Dr. Frederick L. Hoffman, consulting statistician, that began in the November, 1927, issue of the "Bulletin." As explained at that time, these notes will be so written as to make them readable and attractive to medical men, public health workers and laymen, and in such a manner that they will show their direct relation and value to the prevention of disease and prolongation of life.)*

### Statistics of Marriages and Divorces.

A complete science of vital statistics includes statistics of marriages and divorces. The collection of these statistics in the United States is in charge of the Census Office. The last report is for 1925, amplified by an advance report for 1926. According to the report for 1925, the marriage rate of the United States per 1,000 of population is now 10.2. It was only 9.3 in 1900 and 8.7 in 1887, when the first statistics were collected. The census report, unfortunately, does not give the average age at marriage with due regard to sex. Such statistics were formerly at least published in the annual reports on the vital statistics of Massachusetts. For

Massachusetts the marriage rate is computed per 1,000 persons married. On this basis the rate in 1900 was 17.4 against 15.1 in 1925. Marriage statistics if given in detail admit of the study of a wide range of problems. Neither the state nor the federal government at the present time goes exhaustively into this question of the very first importance to the public and the medical profession. The state of New York has published some interesting statistics in detail but also far from adequate to the purpose.

Statistics of divorce which are a matter of great public concern show an increase in the divorce rate from 0.47 per 1,000 of total population in 1887 to 0.86 in 1906 and 1.52 in 1925. There is no more common error current in discussions of the divorce rate than to divide the number of divorces into the current number of marriages with decidedly alarming results. It should be obvious to any one essaying upon the question that current divorces are to only a small extent derived from current marriages, while the major number of divorces is derived from the existing married population. Furthermore, it is somewhat erroneous to calculate divorce rates on the total population instead of upon the married population. If this correction is made the divorce rate is increased for 1925 from 1.52 per 1,000 total population to 3.72 per 1,000 married population. This is a proper rate which indicates the true extent of divorces in the American population at the present time. Precise information is available only at decennial intervals when the conjugal condition of the population is correctly ascertained. Thus in 1920 the total number of married males was 21,849,000, while the number of divorced males that year was 225,284 or 0.6 per cent of the total. The number of married white females was 21,318,000, while the number of divorced white females was 273,204 or 0.8 per cent of the total against 0.6 per cent in 1910. It is thus shown by an appeal to the true facts that divorces are by no means as serious a disintegrating factor in the American family life as is often alleged to be the case.

In view of its international importance, I give a few divorce statistics for foreign countries. The divorce rates per 1,000 of population for either 1924 or 1925 were 0.23 for Norway, 0.28 for Sweden, 0.51 for Denmark, 0.18 for Finland, 0.06 for England and Wales, 0.09 for Scotland, 0.29 for Holland, 0.38 for Belgium, 0.59 for Germany, 0.84 for Austria, 1.13 for European Russia, 0.56 for Switzerland, 0.50 for France, 0.36 for Szechoslovakia, 0.68 for Hungary, 0.88 for Japan, 0.42 for the Union of South Africa, 0.08 for Canada, excluding Quebec, and as stated before, 1.52 for the United States. These statistics were derived from the official "Norwegian Statistical Year Book" for 1926–27.

## Maternal Mortality.

Of all the tragic deaths that fall within the fields of preventive measures, none are more appalling in their effect and consequences than deaths in childbirth. The annual toll of this mortality in the United States reaches the formidable number of almost 15,000. These are mostly young women and mostly mothers giving birth to their first child, largely sacrificed to apathy, ignorance and neglect. Puerperal fever is a preventable disease in a large majority of cases, yet not far from 6,000 deaths from this disease occur during the course of a year. This is at the rate of 5.5 per 1,000, while the prevailing rate for typhoid fever is about 8. To be precise, the puerperal death rate in 1900 was 5.7, rising to 7.2 during 1910, and declining to 6.6 by 1920, while for 1925 the rate was 5.5. There has thus been progress but much better results would seem to be within reach.

A more accurate measure of maternal mortality is determined by the puerperal sepsis rate per 1,000 births. On this basis the puerperal septicemia rate has been reduced from 2.7 per 1,000 in 1921 to 2.4 in 1925, while the death rate from other puerperal causes has been reduced from 4.1 to 4, or for both groups combined from 6.8 to 6.5. That our present status is too high is best evidenced by comparative figures for England and Wales. In 1925 the mortality from all puerperal causes in England and Wales was 4.12 per 1,000 births against 5.5 for the United States. The English puerperal sepsis rate was 1.6 per 1,000, while our rate was 2.4 or precisely 50 per cent higher. In New Zealand in 1926 the rate for all puerperal causes was 4.25 per 1,000 births. Yet everywhere it is argued that the rate is too high and that a further reduction should be brought about. This will be possible only to the extent that hospitalization of maternity cases is materially increased and that better provision is made for nursing care. It goes without saying that there is much unskilful midwifery and that progress in this direction is slow. Every death from puerperal sepsis is an indictment of the attending physician or midwife and every death in pregnancy should unquestionably be thoroughly investigated by the authorities.

Puerperal deaths are divided into eight groups by the census, or accidents of pregnancy, causing 1,393 deaths; puerperal hemorrhage causing 1,518 deaths; other accidents of labor causing 646 deaths; puerperal septicemia causing 5,745 deaths; puerperal phlegmasia alba dolens, embolus, etc., causing 7,081 deaths; puerperal albuminuria and convulsions causing 4,787 deaths; deaths following childbirth, undefined, 69, and puerperal diseases of the breast, 10 deaths. But this information is far from sufficient for

the purpose. In accidents of pregnancy we need to know how many deaths were due to abortions, ectopic gestation, and other accidents of pregnancy not within the foregoing two groups. Abortions require to differentiate criminal abortions and others. Those who wish to go further into the study of the more important aspects of this question should consult a monograph on Maternal Mortality, publication No. 158, Children's Bureau, United States Department of Labor.

### Typhoid Fever.

The number of deaths from typhoid fever in the registration area of the Continental United States in 1926 was 6,826, equivalent to a rate of 6.5 per 100,000. In 1925 the rate was 8.0, while in 1910 it was as high as 23.5 and in 1900, 35.9. There has, therefore, been a substantial and gratifying reduction in the incidence of typhoid fever, which is primarily to be attributed to the immense progress in public health during the intervening years. In 1920 the crude typhoid fever death rate of males was 5.7 and of females 4.3. This relative difference has probably not undergone a material change in the meantime. Typhoid fever does not become an important factor until about ages 10 to 15, when the rate was 5.2 for males and 5.1 for females. It increased to 8.5 for males during ages 15 to 19, and to 7.7 for females. It reached its maximum for males during ages 20 to 24, when it was 9.1 against 5.6 for females. After this age period there is a gradual decline from year to year until the extremes of life when the mortality becomes negligible.

The death rate from typhoid fever is invariably much higher for the colored population than for the white. In 1920 when the rate was 7.8 per 100,000 for the total population of the registration area, it was 6.6 for the white and 19.8 for the colored population. These rates, in each case, are decidedly lower than in 1910, when they were respectively 22.8 for the white and 40.8 for the colored. The actual reduction in the rate has, therefore, been somewhat greater for the colored, which, of course, is easily explained. The typhoid fever rates are also usually higher for rural districts, having been in 1920, 5.5 for the cities of the registration states and 9.6 for the rural portion of the same area. It is necessary to guard against confusion on account of the different areas considered in these observations. As a rule, specific death rates are only calculated by the Census Office for registration states which, of course, do not coincide with the registration area which is much larger, comprehending about 85 to 90 per cent of the total population. But since these statistics are only for the purpose of illustrating the fundamental elements of mortality, they are fully sufficient for the present purpose.

For purposes of comparison, the statistics for England and Wales are perhaps the most illuminating. They are given for the last five years in the table below.

MORTALITY FROM TYPHOID FEVER, 1922–26 — RATES PER 100,000.

| United States Registration Area. | | England and Wales. | |
|---|---|---|---|
| 1922 | 7.5 | 1922 | 1.2 |
| 1923 | 6.8 | 1923 | 1.2 |
| 1924 | 6.7 | 1924 | 1.3 |
| 1925 | 8.0 | 1925 | 1.0 |
| 1926 | 6.5 | 1926 | 0.9 |

The preceding comparison emphasizes the regrettable fact that our present typhoid fever rate, low as it is, is as yet far from that of England and Wales, where the conditions as to water supply and milk supply must be much more difficult than with us. The actual number of deaths from typhoid fever in England and Wales was only 367 in a population of about 40,000,000. If the rate in this country were the same as in England and Wales, we would have about 1,200 deaths from typhoid fever instead of the nearly 7,000 which actually occurred. *(To be Continued.)*

## ERRATA.

On page 123 of the May *Bulletin* in the eleventh line from the top it should read:

"In a *complex* mixture" instead of "In a *complete* mixture."

On page 134 of the same *Bulletin*, at bottom of page, under Summary of the Work, April, 1928, under heading Medical Division, following correction should be made:

| | |
|---|---|
| Cases brought to Boston for treatment | 121 |
| Deaths investigated | 15 |
| *instead of* | |
| Cases brought to Boston for treatment | 12 |
| Deaths investigated | 1 |

## SUMMARY OF THE WORK, MAY, 1928.

### BUREAU OF ADMINISTRATION.

| | | | |
|---|---|---|---|
| Prosecutions ordered | 3 | Transfers | 2 |
| Legal notices | 199 | Leaves of absence | 3 |
| Contracts awarded | 2 | Appointments, permanent | 2 |
| Trip out of town authorized | 1 | Appointments, temporary | 2 |
| Personnel: | | Promotion | 1 |
| Provisional appointment terminated | 1 | Culture station approved | 1 |

### LICENSES, PERMITS, ETC., ISSUED.

| | | | |
|---|---|---|---|
| Burial permits | 1,349 | Manicure-massage | 821 |
| Day nursery disapproved | 1 | Milk | 1,629 |
| Denatured alcohol | 86 | Offensive trades | 6 |
| Grease | 4 | Pedlers | 169 |
| Manure | 1 | Ice cream | 44 |
| Hen licenses | 62 | | |

## MEDICAL DIVISION.

| | | | |
|---|---|---|---|
| Visits: | | Cases brought to Boston for treatment | 113 |
| By medical inspectors | 798 | Deaths investigated | 24 |
| By veterinarian | 304 | | |
| By investigator | 382 | | |

## NURSING SERVICE.

| | | |
|---|---|---|
| Homes Visited | | 17,369 |
| Child Hygiene: | | |
| Visits to new cases | 1,607 | |
| Visits to old cases | 9,923 | |
| Total | | 11,530 * |
| Communicable Diseases: | | |
| Visits to new cases | 1,117 | |
| Visits to old cases | 3,217 | |
| Total | | 4,334 † |
| Tuberculosis: | | |
| Visits to new cases | 279 | |
| Visits to old cases | 4,249 | |
| Total | | 4,528 ‡ |
| Miscellaneous Visits: | | |
| Infant death investigations | 123 | |
| Maternal death investigation | 1 | |
| Patients accompanied to hospital | 12 | |
| Visits to day nurseries | 7 | |
| Visits to parochial schools | 58 | |
| Posture clinics | 22 | |
| Other special visits | 9 | |
| Total | | 232 |
| Total number of visits | | 20,392 |

| | Hrs. | Min. |
|---|---|---|
| In station by nurses | 3,268 | 30 |
| At baby conferences | 1,853 | 30 |
| At tuberculosis clinics | 948 | 10 |
| At nurses' conferences | 503 | 45 |
| Posture classes | 57 | 30 |
| Parochial schools | 119 | 55 |
| Total number of hours | 6,751 | 20 |

* Includes 131 wrong addresses; 1,252 not seen; 1,383 absent visits.
† Includes 25 wrong addresses; 93 not seen; 118 absent visits.
† Includes 171 ophthalmia visits.
‡ Includes 39 wrong addresses; 456 not seen; 495 absent visits.
‡ Includes 1,994 positive cases; 1,245 contact cases; 794 suspect cases.

| | |
|---|---|
| **Miscellaneous Unit Activities:** | |
| Complaint of insanitary conditions | 300 |
| Number of persons given health and other information | 1,586 |
| City visitors | 47 |
| Out of city visitors | 19 |
| **Dental Service:** | |
| Number of children's teeth cleaned | 163 |
| Number of children treated | 2,535 |
| Prophylaxis | 4,798 |
| **Eye Service:** | |
| New cases | 45 |
| Number of refractions | 58 |
| Number of glasses prescribed | 18 |
| Number of examinations for diagnosis | 19 |
| **Child Hygiene Division:** | |
| Number of child health conferences | 36 |
| Total attendance at conferences | 1,613 |
| New babies at conferences | 234 |
| New preschool age children at conferences | 56 |
| Vaccinations performed | 601 |
| Vaccination certificates issued | 242 |
| Number of posture clinics | 22 |
| Total attendance at posture clinics | 427 |
| Toxin-antitoxin administrations | 26 |
| Examined for day nurseries | 396 |
| **Tuberculosis Clinics:** | |
| Number of clinics | 47 |
| Attendance at tuberculosis clinics | 737 |
| New cases | 120 |
| X-ray examinations | 273 |
| **Nursing Service:** | |
| Homes visited by nurses | 5,009 |
| Total visits to babies and preschool children | 3,348 |
| Total communicable disease visits | 765 |
| Total tuberculosis visits | 1,588 |
| Infant death investigations | 30 |
| Special visits | 4 |
| Alpine lamp treatments | 115 |
| **Nose and Throat Service:** | |
| Number of conferences | 5 |
| Number of examinations | 273 |
| Number of operations advised | 141 |
| **Boston Lying-in Hospital:** | |
| Pre-natal clinic: | |
| Number of clinics | 14 |
| Attendance | 227 |
| New cases | 66 |

| | |
|---|---|
| COMMUNITY HEALTH ASSOCIATION: | |
| General Division: | |
| Home visits by nurses | 10,139 |
| BOSTON DISPENSARY: | |
| Calls by district physician | 211 |
| STATE DEPARTMENT OF MENTAL DISEASES: | |
| Number of clinics | 8 |
| Attendance at clinics | 20 |
| Visits of workers | 5 |
| New cases | 73 |
| INFANTILE CLINIC OF CHILDREN'S HOSPITAL: | |
| Number of clinics | 8 |
| Attendance | 56 |
| New cases | 1 |

## FOOD INSPECTION DIVISION.

### MARKET, STORE AND RESTAURANT SERVICE.

| | |
|---|---|
| Reinspections | 381 |
| Stores inspected | 4,834 |
| Sanitary defects remedied | 155 |
| Complaints at office | 44 |
| Referred to Sanitary Division | 7 |
| Milk applicants | 9 |
| Notices to abate nuisances | 92 |
| Applications for pedlers' licenses approved | 168 |
| Vehicles inspected and approved | 647 |
| Laboratory Examinations: | |
| Bacteriological | 4 |
| Chemical | 10 |

#### CONDEMNATIONS.

| | |
|---|---|
| Meat: | |
| Beef | 3,836½ pounds |
| Cheeks | 30 pounds |
| Fowl | 93 pounds |
| Frankfurts | 43 pounds |
| Goat | 17½ pounds |
| Ham | 25 pounds |
| Hog | 43 pounds |
| Liver | 4 pounds |
| Lamb | 2 pounds |
| Pork | 4 pounds |
| Poultry | 64 pounds |
| Sweetbreads | 3 pounds |
| Smoked shoulder | 6 pounds |
| Turkey | 47 pounds |
| Fruit: | |
| Cherries | 37 boxes |
| Lemons | 2 dozen |
| Oranges | 2 dozen |
| Pears | 4 bushels |
| Strawberries | 22 crates |
| Vegetables: | |
| Onions | 55 bags |
| Butter beans | 10 pounds |
| Tomatoes | 24 boxes |
| " | 1 bushel |

### LIVE STOCK INSPECTION (Brighton Abattoir).

| | | | |
|---|---|---|---|
| Cattle inspected | 4,156 | Parts condemned (lbs.) | 19,844 |
| Calves inspected | 5,178 | Animals condemned | 80 |
| Swine inspected | 3,868 | | |

## DAIRY DIVISION.

| | | | |
|---|---|---|---|
| Total number of services | 1,464 | Total cattle inspected | 10,727 |
| Dairies inspected | 712 | Inspections of milk plants and licensed dealers | 211 |
| Scoring above 50* | 521 | Bacteriological examinations | 12 |
| Scoring below | 191 | Country creamery inspections | 11 |
| With milk rooms | 520 | Sediment tests | 495 |
| Without milk rooms | 192 | | |
| Inactive | 19 | | |

* Passable mark.

## BUREAU OF MILK INSPECTION.

### SAMPLES EXAMINED.

| | |
|---|---|
| CHEMICAL: | |
| Milk from wagons | 293 |
| Milk from stores | 500 |
| Milk brought by citizens | 13 |
| Vinegar | 14 |
| Water and sewage | 6 |
| Disinfectant | 1 |
| Tonics | 1 |
| Fish | 7 |
| Chocolate | 1 |
| Beef | 1 |
| Miscellaneous | 3 |
| Court cases | 34 |
| Fines | $425 |
| BACTERIOLOGICAL: | |
| Milk | 450 |
| Ice cream | 81 |
| Bottles | 32 |
| Caps | 76 |

## SANITARY INSPECTION.

| | | | |
|---|---|---|---|
| Original inspections | 2,305 | Legal notices served | 170 |
| Reinspections | 6,737 | Complaints investigated | 585 |
| Nuisances abated | 1,658 | | |

## BACTERIOLOGICAL LABORATORY.

| | |
|---|---|
| Diphtheria | 1,002 |
| Tuberculosis | 591 |
| Typhoid | 61 |
| Gonorrhea | 910 |
| Gonorrheal ophthalmia | 59 |
| Malaria | 6 |
| Dark field | 7 |
| Genito-urinary tuberculosis | 22 |
| Syphilis | 1,374 |
| Other examinations* | 328 |
| Bacteriological examinations of milk | 450 |
| Bacteriological examinations of ice cream | 81 |

*Urines, 306; feces for B. typhosus, 6; smears for Vincent's angina, 3; smears for virulence, 3; urines for B. typhosus, 6; smear for syphilis, 1; smear for meningitis, 1; smear for anthrax, 1; smear for leprosy, 1.

## MONTHLY REPORT OF VENEREAL DISEASE ACTIVITIES.
## MAY, 1928.

### SYPHILIS.

| | |
|---|---|
| Current cases under investigation, May 1, 1928 | 24 |
| New cases during May | 14 |
| Total | 38 |

#### Disposition of Cases.

| | |
|---|---|
| Under treatment | 5 |
| False address | 3 |
| Unable to locate | 7 |
| Moved out of town | 3 |
| Under investigation May 31 | 20 |
| Total | 38 |
| New cases reported by number | 86 |

### GONORRHEA.

| | |
|---|---|
| Current cases under investigation May 1, 1928 | 61 |
| New cases during May | 58 |
| Total | 119 |

#### Disposition of Cases.

| | |
|---|---|
| Under treatment | 25 |
| False address | 10 |
| Unable to locate | 26 |
| Moved out of town | 7 |
| Treatment not needed | 2 |
| Under investigation May 31 | 49 |
| Total | 119 |
| New cases reported by number | 258 |

### SUMMARY.

| | |
|---|---|
| Current cases under investigation May 1, 1928 | 85 |
| New cases during May | 72 |
| Total | 157 |

#### Disposition of Cases.

| | |
|---|---|
| Under treatment | 30 |
| False address | 13 |
| Unable to locate | 33 |
| Moved out of town | 10 |
| Treatment not needed | 2 |
| Under investigation May 1 | 69 |
| Total | 157 |
| Visits by venereal investigator | 382 |

### COMPLAINTS AND SOURCES OF INFECTION.

| | |
|---|---|
| Placed under treatment | 7 |
| Treatment not needed | 1 |
| Total | 8 |
| Venereal deaths investigated | 2 |

# REPORT OF TUBERCULOSIS DIVISION, MAY, 1928.

In the month of May there were 122 clinic sessions held in the ten clinics. Distribution of clinics was as follows:

| | |
|---|---|
| At the South End Health Unit | 16 |
| At the East Boston Health Unit | 14 |
| At the North End Health Unit | 13 |
| At the West End Health Unit | 12 |
| At the South Boston Health Unit | 8 |
| At the Boston Dispensary Unit | 23 |
| At the Brighton Health Unit | 9 |
| At the Charlestown Health Unit | 9 |
| At the Codman Square Health Unit | 9 |
| At the Hyde Park Health Unit | 9 |
| Total number of cases | 122 |

| Districts. | Total Number of Cases at Clinics. | | | Total Number of New Cases at Clinics. | | |
|---|---|---|---|---|---|---|
| | Adults. | Children. | Total. | Adults. | Children. | Total. |
| South End | 199 | 216 | 415 | 35 | 34 | 69 |
| East Boston | 93 | 159 | 252 | 18 | 29 | 47 |
| North End | 64 | 105 | 169 | 16 | 3 | 19 |
| West End | 55 | 59 | 114 | 8 | 13 | 21 |
| South Boston | 90 | 84 | 174 | 11 | 18 | 29 |
| Boston Dispensary | 77 | 45 | 122 | 21 | 8 | 29 |
| Brighton | 35 | 23 | 58 | — | 6 | 6 |
| Charlestown | 25 | 30 | 55 | 2 | 4 | 6 |
| Codman square | 78 | 77 | 155 | 12 | 20 | 32 |
| Hyde Park | 43 | 40 | 83 | 10 | 12 | 22 |
| Totals | 759 | 838 | 1,597 | 133 | 147 | 280 |

| Districts. | Von Pirquet. | Wassermann. | Lamp. | X-Ray. |
|---|---|---|---|---|
| South End | 63 | 27 | 273 | 249 |
| East Boston | 29 | 8 | 97 | 49 |
| North End | 4 | 8 | 47 | 99 |
| West End | 18 | 5 | — | — |
| South Boston | 32 | 11 | 124 | 56 |
| Boston Dispensary | 19 | 6 | — | — |
| Brighton | 14 | 3 | — | — |
| Charlestown | 10 | 1 | — | — |
| Codman square | 33 | 3 | — | — |
| Hyde Park | 10 | 5 | — | — |
| Totals | 232 | 77 | 541 | 453 |

## TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING MAY, 1928.

| Classification. | Number. | Percentage. |
|---|---|---|
| After death | 15 | 20.83 |
| Seven days or less | 3 | 4.17 |
| Eight to fourteen days, inclusive | 2 | 2.78 |
| Fifteen to twenty-one days, inclusive | 3 | 4.17 |
| Twenty-two to thirty-one days, inclusive | — | — |
| Within First Month. (Total) | 23 | 31.95 |
| Within second month | 8 | 11.11 |
| Within third month | — | — |
| Within fourth month | 1 | 1.39 |
| Within fifth month | 3 | 4.17 |
| Within sixth month | 3 | 4.17 |
| Within seventh month | — | — |
| Within eighth month | — | — |
| Within ninth month | 3 | 4.17 |
| Within tenth month | 1 | 1.39 |
| Within eleventh month | 1 | 1.39 |
| Within twelfth month | — | — |
| Within First Year Preceding Death. (Total) | 43 | 59.74 |
| Within second year | 13 | 18.05 |
| Within third year | 3 | 4.17 |
| More than three years | 13 | 18.05 |
| Grand totals | 72 | 100.01 |

# CHILD HYGIENE DIVISION.

## REPORT OF ACTIVITIES OF MEDICAL INSPECTORS MAY, 1928.

| | |
|---|---|
| Inspections | 472 |
| Physical examinations made | 399 |
| Toxin-antitoxin administrations | 136 |
| Vaccinations | 471 |
| Vaccination certificates issued | 167 |
| Day nursery visits | 29 |
| Parochial school visits | 19 |
| Conferences | 6 |

# REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES FOR MAY, 1928.

| Station. | Toxin–Antitoxin. | | | | Number of Vaccinations. |
|---|---|---|---|---|---|
| | First. | Second. | Third. | Total. | |
| Old Town Hall, Brighton | 14 | 6 | 5 | 25 | 10 |
| 31 Lincoln street, Brighton | 9 | 4 | 2 | 15 | 4 |
| Charlestown Municipal Building | — | 2 | 2 | 4 | 16 |
| Codman Square Library | 6 | 4 | 5 | 15 | 168 |
| Columbia Road Municipal Building | — | 1 | 3 | 4 | 109 |
| 1 Arcadia street, Dorchester | — | — | 1 | 1 | 32 |
| East Boston Health Unit | — | — | — | — | — |
| Hyde Park Municipal Building | 1 | 2 | 1 | 4 | 22 |
| Curtis Hall, Jamaica Plain | 2 | 5 | 13 | 20 | 7 |
| North End Health Unit | 1 | 2 | 2 | 5 | 87 |
| Roslindale Municipal Building | 1 | 1 | 1 | 3 | 24 |
| Beth Israel Hospital | — | — | — | — | 92 |
| Children's Hospital | 3 | 9 | 5 | 17 | 10 |
| 1049 Columbus avenue | 2 | 2 | 2 | 6 | 26 |
| Vine Street Municipal Building | — | 2 | — | 2 | 32 |
| 133 Dorchester street, South Boston | — | 1 | 1 | 2 | 44 |
| 122 Tyler street | 7 | 8 | 5 | 20 | 15 |
| Shawmut Avenue Municipal Building | 6 | 5 | 4 | 15 | 2 |
| 57 East Concord street | 5 | 7 | 2 | 14 | 45 |
| 17 Blossom street | — | — | — | — | — |
| Totals | 57 | 61 | 54 | 172 | 745 |

# MONTHLY REPORT OF CHILD HEALTH CONFERENCES MAY, 1928.

| Station. | Number of Babies. | Number of Preschool. | Total Attendance. | Number of New Babies. | Number of New Preschool. | Total New Cases. | Number of Conferences. | Average Attendance. |
|---|---|---|---|---|---|---|---|---|
| Old Town Hall, Brighton | 171 | 24 | 195 | 25 | 3 | 28 | 4 | 49 |
| 31 Lincoln street, Brighton | 78 | 14 | 92 | 18 | 1 | 19 | 5 | 18 |
| Charlestown Municipal Building | 235 | 20 | 255 | 22 | — | 22 | 8 | 32 |
| Codman Square Library | 438 | 79 | 517 | 86 | 21 | 107 | 8 | 65 |
| Columbia Road Municipal Building | 404 | 6 | 410 | 59 | 2 | 61 | 9 | 46 |
| 1 Arcadia street, Dorchester | 305 | 12 | 317 | 49 | 2 | 51 | 10 | 32 |
| East Boston Health Unit | 339 | 35 | 374 | 72 | 5 | 77 | 9 | 42 |
| Hyde Park Municipal Building | 144 | 14 | 158 | 18 | 4 | 22 | 4 | 40 |
| Curtis Hall, Jamaica Plain | 147 | 8 | 155 | 28 | 2 | 30 | 4 | 39 |
| North End Health Unit | 287 | 154 | 441 | 45 | 13 | 58 | 10 | 44 |
| Roslindale Municipal Building | 204 | 38 | 242 | 28 | 2 | 30 | 4 | 61 |
| Beth Israel Hospital | 205 | 34 | 239 | 15 | — | 15 | 5 | 48 |
| Children's Hospital | 183 | 12 | 195 | 26 | 1 | 27 | 5 | 39 |
| 1049 Columbus avenue | 299 | 24 | 323 | 57 | — | 57 | 10 | 32 |
| Vine Street Municipal Building | 333 | 9 | 342 | 56 | 1 | 57 | 9 | 38 |
| 133 Dorchester street, South Boston | 390 | 78 | 468 | 77 | 33 | 110 | 10 | 47 |
| 122 Tyler street | 146 | 30 | 176 | 16 | 1 | 17 | 5 | 35 |
| Shawmut Avenue Municipal Building, | 102 | 38 | 140 | 21 | 2 | 23 | 4 | 38 |
| 57 East Concord street | 184 | 31 | 215 | 27 | — | 27 | 5 | 43 |
| 17 Blossom street | 350 | 67 | 417 | 43 | 2 | 45 | 9 | 46 |
| Totals | 4,944 | 727 | 5,671 | 788 | 95 | 883 | 137 | 42 |

# VITAL STATISTICS, MAY, 1928.

## BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING MAY, 1928, WITH COMPARATIVE FIGURES FOR MAY, 1927.

| | BIRTHS AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **All Causes:** | | | | | | |
| Total deaths | 1,146 | 983 | +163 | 17.21 | 14.87 | +2.34 |
| Nonresidents deducted | 951 | 803 | +148 | 14.28 | 12.15 | +2.13 |
| **By Age:** | | | | | | |
| Under one year | 157 | 135 | +22 | 2.36 | 2.04 | +.32 |
| One year to four years, inclusive | 66 | 43 | +23 | .99 | .65 | +.34 |
| Sixty years and over | 465 | 393 | +72 | 6.98 | 5.95 | +1.03 |
| **By Special Causes:** | | | | | | |
| Degenerative Diseases, So Called: | | | | | | |
| Apoplexy | 60 | 62 | —2 | .90 | .94 | —.04 |
| Arteriosclerosis | 18 | 26 | —8 | .27 | .39 | —.12 |
| Heart disease | 255 | 184 | +71 | 3.83 | 2.78 | +1.05 |
| Nephritis, chronic | 70 | 53 | +17 | 1.05 | .80 | +.25 |
| Infant and Maternal Mortality: | | | | | | |
| *a.* Total registered live births | 1,364 | 1,239 | +125 | 20.48 | 18.75 | +1.73 |
| *b.* Registered stillbirths | 39 | 43 | —4 | .58 | .65 | —.07 |
| Stillbirths per 1,000 births and stillbirths | — | — | — | 21.07 | 33.54 | —12.47 |
| *c.* Deaths of mothers from causes incident to childbirth | 14 | 18 | —4 | .21 | .27 | —.06 |
| Deaths of mothers per 1,000 births and stillbirths | — | — | — | 9.98 | 14.04 | —4.06 |
| Deaths of children in first year of life | 157 | 135 | +22 | 2.36 | 2.04 | +.32 |
| Deaths in first year per 1,000 live births, | — | — | — | 115 10 | 108.96 | +6.14 |
| Violence: | | | | | | |
| Accidents | 39 | 47 | —8 | .58 | .71 | —.13 |
| Homicides | — | 2 | —2 | — | .03 | —.03 |
| Suicides | 7 | 13 | —6 | .10 | .20 | —.10 |
| Miscellaneous: | | | | | | |
| Alcoholism, acute or chronic | 10 | 5 | +5 | .15 | .07 | +.08 |
| Broncho-pneumonia | 104 | 48 | +56 | 1.56 | .73 | +.83 |
| Cancer | 99 | 106 | —7 | 1.49 | 1.60 | —.11 |
| Cirrhosis of the liver | 9 | 7 | +2 | .13 | .10 | +.03 |
| Diabetes mellitus | 17 | 16 | +1 | .25 | .24 | +.01 |
| Diarrheal diseases, children under two years of age | 22 | 5 | +17 | .33 | .07 | +.26 |

| | CASES AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **Communicable Diseases:** | | | | | | |
| Anterior poliomyelitis.....Cases.. | — | 4 | —4 | — | .06 | —.06 |
| Deaths. | — | 1 | —1 | — | .015 | —.015 |
| Cerebrospinal meningitis.....Cases.. | 4 | 1 | +3 | .06 | .015 | +.045 |
| Deaths. | 4 | 1 | +3 | .06 | .015 | +.045 |
| Diphtheria.....Cases.. | 101 | 132 | —31 | 1.52 | 2.00 | —.48 |
| Deaths. | 8 | 3 | +5 | .12 | .04 | +.08 |
| Influenza.....Cases.. | 68 | 12 | +56 | 1.02 | .18 | +.84 |
| Deaths. | 15 | 4 | +11 | .22 | .06 | +.16 |
| Measles.....Cases.. | 546 | 590 | —44 | 8.20 | 8.93 | —.73 |
| Deaths. | 12 | 5 | +7 | .18 | .07 | +.11 |
| Pneumonia (lobar).....Cases.. | 194 | 136 | +58 | 2.91 | 2.06 | +.85 |
| Deaths. | 77 | 63 | +14 | 1.16 | .95 | +.21 |
| Scarlet fever.....Cases.. | 320 | 473 | —153 | 4.80 | 7.16 | —2.36 |
| Deaths. | 3 | 8 | —5 | .04 | .12 | —.08 |
| Tuberculosis (pulmonary).....Cases.. | 137 | 166 | —29 | 2.06 | 2.51 | —.45 |
| Deaths. | 72 | 49 | +23 | 1.08 | .74 | +.34 |
| Tuberculosis (other forms).....Cases.. | 40 | 34 | +6 | .60 | .51 | +.09 |
| Deaths. | 9 | 10 | —1 | .13 | .15 | —.02 |
| Typhoid fever.....Cases.. | 5 | 6 | —1 | .07 | .09 | —.02 |
| Deaths. | — | 1 | —1 | — | .015 | +.015 |
| Whooping cough.....Cases.. | 125 | 54 | +71 | 1.88 | .82 | +.06 |
| Deaths. | 4 | 1 | +3 | .06 | .015 | +.045 |

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1928 (mid-year), based upon the federal census of 1920, has been used.

**DO NOT DESTROY.**

When you have no further use for this Circular give it to someone else.

MONTHLY BULLETIN

# HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

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## A LESSON FROM MILITARY EXPERIENCE.

As a publisher, the government has no idea of financial profit from its publications. Official reports never receive the kind of attention which makes a book a good seller and establishes a person's reputation as an author or as a scientific authority. Inaccessible basements of library buildings are commonly regarded as appropriate repositories for government documents and as a consequence the results of painstaking studies of professional men in the government service may never come to the attention of those who might practically benefit therefrom.

This is especially true of the work done by officers of our army and navy. There is a common presumption that what they may do is serviceable only for military purposes. Yet such officers, carefully selected and rigorously trained for an exacting professional career, cannot fail to accumulate day after day and year after year in positions of official responsibility for the mental and physical efficiency of large numbers of real live men, much information which may be advantageously utilized to promote human health and efficiency in civil life. It may even be that in certain matters such experience may furnish a safer basis for formulating precepts for the promotion of human health than experiments on laboratory rats when the two sources of information may point to different conclusions.

Two problems are continually presenting themselves to army and naval officers, medical and otherwise. One is always of primary importance. It is the maintenance of discipline with a satisfactory, so-called, *morale* or *esprit de corps*. This may be properly referred to as a problem in applied psychiatry, but it has certain aspects which may not be appreciated. It is even harder to fool people all the time in military service than in political life. Men quickly make a correct appraisal of the personality and qualifications of their officers. The continued maintenance of discipline and a satisfactory *morale* calls for the application of certain ancient principles by officers of a naturally superior personality and with a proper training for their responsibilities.

The other problem which is almost always before the responsible military officers is the prevention of disability or "non-effectiveness" from communicable diseases. Here also practical military considerations quite as much as theoretical knowledge must always be taken into account. Such considerations may, however, increase rather than lessen the value of military experience in dealing with the problems presented by communicable diseases in civil life.

This fact becomes apparent in going through a comprehensive government report which has recently appeared. It is entitled the "*Medical Department of the United States Army in the World War*. Volume IX. Communicable and other Diseases. Prepared under the direction of Maj. Gen. M. W. Ireland, surgeon general, by Lieut. Col. Joseph F. Siler, M. C., United States Army."

The following excerpts from the report will indicate the character of the information which may be profitably salvaged therefrom before this publication meets the usual fate of a government document.

*Typhoid and Paratyphoid Fevers.*— Typhoid and paratyphoid fevers were of but minor importance as causes of sickness in the United States Army during the World War. In contrast with an estimated typhoid fever incidence of above 100 per 1,000, for the Civil War and 141.59 for the Spanish American War, it was but 0.37 among American troops during the World War. This result is, of course, to be attributed in the main to the universal vaccination against typhoid and paratyphoid, but it is not to be overlooked, that as never in previous wars, effort was made by use of chlorine, by boiling water and in other ways to prevent opportunity for infection.

It is also to be noted that typhoid fever did develop in some persons presumably protected by vaccination. Six possible reasons are given for the failure of the vaccination procedure to protect, one of which is an overwhelming dose of the infecting organism.

*Influenza.*— The outstanding calamity of military life in the American Army during the World War was the influenza epidemic. It had ceased to be a matter of serious practical importance by the time experience had shown how casualties from this infection might possibly have been lessened.

On looking back, evidence is to be found from army records that influenza was a considerable factor in the sick rates of the United States Army for some years before the World War. During the war there was a relative immunity of the troops in Europe as compared with those in the United States. The rise in mortality attributable to influenza occurred simultaneously both in Europe and the United States. American military experience during the World War demonstrated again what has been repeatedly demonstrated by military experience. There is an inverse correlation between the amount of floor space per man in barracks and the percentage of respiratory infections. The World War experience, however, apparently failed to teach the military novices that the incidence of respiratory infections may be further decreased by excluding troops from sleeping quarters during the day.

Military experience indicates that the period of infectivity of influenza in individual cases is relatively brief, is limited to the unrecognizable prodromal stage and is over by the time that the fever and prostration appears, and consequently an attempt to control the spread of influenza by isolating persons recognizably sick is futile.

Individual cases of influenza may, however, be logically isolated for their own sake. Military mortality whether from influenza or measles is not due to either infection of itself. It results from some form of pneumonia, the infective agents of which the influenza or measles patient may already be carrying, and which he will most certainly acquire if placed in a hospital with cases of pneumonia.

Something more is needed besides pneumonia organisms to make a soldier with influenza or measles develop pneumonia. There are factors in this matter which still remain unknown, but the World War military experience again demonstrated the fact that undue fatigue, the physical stress incident to an adjustment to unaccustomed tasks and new living conditions, not only predisposed to pneumonia but to fatal results as well.

From a civil, as well as a military point of view, the prevention of mortality from influenza practically resolves itself into the prevention of pneumonia. Nothing is better calculated to kill influenza patients than to hospitalize them with cases of pneumonia.

Whatever tends to check the distribution of organisms from the mouth or nose among a body of men tends to reduce all respiratory

infections, including pneumonia. As already referred to, respiratory infections have been repeatedly found in military experience to be related to per capita floor space or cubic air space in barracks and the occupancy of the same quarters by soldiers both day and night.

Two army medical officers, Lynch and Cummings, pointed out that during the influenza epidemic military units and also civil institutions using mechanical dish washers, suffered less from influenza and its complications than such units and institutions generally. Mechanical dishwashers make possible, but do not assure, the use of water at a sterilizing temperature. The matter subsequently received the attention of other investigators with an official status who thought they could find possible reasons to explain a favorable influenza record, where it occurred, without giving credit therefor to the attention paid to the cleanliness of mess gear, and vice versa. However this may be, long before the days of Lynch and Cummings a coincidence between the boiling of mess gear and the cessation of epidemics of the kind of infections which complicate influenza had repeatedly been observed in military and naval experience and it may be inferred from ancient Jewish rites that the observance of similar coincidences had suggested even to the more ancient Egyptians a relation between health and dishwashing.

*Tuberculosis.*— Experience in our army has long shown that pulmonary tuberculosis is discovered in the majority of cases in the early months of military service. In the World War, disability from this cause in our forces abroad was practically negligible because early in the war the recruits were given a special examination for tuberculosis soon after entering on military duties. At the same time, the evil of the ultra-refined diagnosis of pulmonary tuberculosis had been learned from the experience already acquired by our Allies.

Our army regulations insist upon moist râles as the only physical sign which justifies the diagnosis of activity. The regulations also take the position that while the radiograph is a very valuable adjunct to diagnosis, it cannot be relied upon exclusively for that purpose. The regulations forbid the use of tuberculin for purposes of diagnosis in the individual case in army examinations.

*Cerebrospinal Meningitis.*— The incidence of cerebrospinal meningitis in the American Army during the war was low. It owed its consideration to its high case mortality. Extensive carrier surveys made in many camps showed that from 1 to 3 per cent of apparently normal individuals who presumably had not been associated with meningitis cases, harbored meningococci in the upper respiratory tract.

Apparently, out-of-doors exercise and exposure to sunshine were about as effective as the use of drugs in the treatment of meningococcus carriers.

While measures employed to prevent meningitis in the army during the war cannot be considered as altogether successful, army experience indicated that healthy individuals rarely contracted meningitis from patients having the disease.

*The Diarrheal Group of Diseases.*— Diseases which may be grouped together as inflammations of the intestinal tract, and which possess in common the symptom diarrhea, were of much less importance in the World War than in any previous major conflict of which we have record. The admission rates for the group were about the same in the United States and in Europe, but the mortality was greater in Europe. Included in this group were various types of dysentery, but the prognosis was generally favorable.

Examinations showed that carriers of various organisms responsible for dysentery were comparatively common even in this country.

*Smallpox.*— The most important fact disclosed by the records of occurrence of smallpox in the United States Army during the World War is the demonstration on a gigantic scale, of the importance and value of vaccination as a preventive measure.

From April 1, 1917, to December 31, 1919, the mean annual strength of the American Army was 3,599,527 men, chiefly recruits, gathered largely from communities where smallpox was common. During this period there were 853 hospital admissions on account of smallpox with fourteen deaths.

*Measles.*— Recruits from certain parts of this country were largely non-immunes and no disease was more closely associated with mobilization than measles. There were 98,225 hospital admissions with a primary diagnosis of measles. There were 2,367 deaths.

Inflammation of the respiratory tract during measles readily permits the invasion of pathogenic bacteria. In the army experience, secondary streptococcus infection was common.

*Mumps.*— It appears that 230,356 cases of mumps were admitted to hospitals for the total army during the World War. From a standpoint of non-effectiveness, mumps stood third on the list of diseases and was therefore of great importance from a military point of view.

*Encephalitis Lethargica.*— While it has long been recognized that outbreaks of encephalitis lethargica have been connected with epidemics of influenza, the exact etiological relationship has not been explained.

Encephalitis lethargica appeared in France and England in the spring of 1918 and first in this country, as a matter of record, on September 4, 1918, in New York City.

Since encephalitis lethargica was not recognized in the official army list of diagnoses until 1922, official statistics do not reveal the total number of cases which had occurred in the army prior to that time, but it was insignificantly small — probably under fifty.

*Trench Fever.*— Infectious jaundice has been recognized as a disease entity since the early part of the eighteenth century. The discovery that it is due to a spirochete and that the brown rat is the immediate host of the parasite is quite recent.

There is a statistical record of 532 cases of infectious jaundice in the United States Army during the World War with fourteen deaths.

The trench fever, like typhus fever, is a louse-borne disease, but its etiology is not yet clear.

It appeared among the British troops on the Western Front in 1915. The disease, when uncomplicated, is never fatal. The number of recorded cases in the American Army was 901, but this number doubtless falls far short of recording all the cases which actually occurred.

*Vincent's Disease.*— Probably the war is responsible for one public health problem which is of growing importance in this country. Before the war, Vincent's disease was not uncommon here, but it was practically unknown in the United States Army. In 1909 and 1910, throat swabs examined in the Michigan State Laboratory revealed 178 cases. It was, however, in the World War, on the Western Front, under the designation of "trench mouth" or "trench throat" that the infection began to call for serious attention.

The etiology of Vincent's disease is not yet clear. It is apparent that the *bacillus fusiformis* and the *spirochaeta vincenti* are intimately associated as causal factors. Yet these organisms would also seem to be normal inhabitants of the mouth. Possibly some strains may be capable of taking on virulent characteristics.

The army experience would indicate that predisposing factors are equal to or greater in importance than the presence of Vincent's organisms. Of first magnitude is faulty oral hygiene. Dental caries and other abnormal oral conditions favor the development of the condition. So, also, does a poor general physical condition.

Among approximately 25,000 patients who passed through the base hospital at Coblenz there were two deaths.

The more effective preventive measures would appear to be oral hygiene and the sterilization of mess gear.

*The Malarial Fevers.*— Prior to the World War malaria in the United States Army had been effectively controlled, and the efficiency of the army methods are attested by the fact that, notwithstanding the prevalence of malaria in many regions from which our wartime army was recruited, there were but 10,182 hospital admissions for malaria from April 1, 1917, to December 31, 1919.

*Intestinal Parasites.*— By reason of the geographical derivation of many of the recruits the hookworm and other intestinal parasites were an important matter for consideration. Here, again, the efficiency of army methods was demonstrated.

In the report under consideration is to be found a most interesting and instructive chapter entitled "Neuro-Circulatory Asthenia." It includes a description of the physical characteristics of persons in which this cause of military noneffectiveness is likely to be found.

The report concludes with a summary of decisions in cases in which question has arisen whether or not disabilities were in line of duty.

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## CLIMATE IN CONSUMPTION.

"Climate in consumption is a will-o'-the-wisp. It is the end of the rainbow with its pot of gold. It is ever just a little beyond. It rests in Colorado, New Mexico, Arizona, California. Like children in their simple faith chasing the rainbow's vanishing end, delving for treasures where once it stood, our patient pursues his phantom, till worn and wasted, weary but hopeful still, he falls asleep, and awakes to learn that the magic end of the bow of promise rests upon the mystic shores of the spirit land."

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## VITAL STATISTICS FOR MEDICAL MEN.

*(The following notes are a continuation of the series by Dr. Frederick L. Hoffman, consulting statistician, that began in the November, 1927, issue of the "Bulletin." As explained at that time, these notes will be so written as to make them readable and attractive to medical men, public health workers and laymen, and in such a manner that they will show their direct relation and value to the prevention of disease and prolongation of life.)*

### Measles.

The number of deaths from measles in the United States in 1926 was 8,607 against only 2,404 in 1925. The rates per 100,000 of population were respectively 8.2 and 2.3. The incidence of measles varies, therefore, enormously from year to year, being subject to causative factors which as yet are but very imperfectly understood, but probably very closely connected with changes in weather conditions. Or on the other hand to the accumulated susceptibility of children, for measles is essentially a disease of

early childhood. It prevails at about the same rate among boys and girls, or respectively 10.7 for males and 10.1 for females per 100,000. These rates are for 1920 for the registration states. The rate is highest during the first year of life, or 157.5 for males and 129.4 for females. During ages 1 to 4, inclusive, it is 75.9 for males and 72.6 for females. It falls to 7.6 for males and 8.6 for females during the age period 5 to 9 years, and further still to 1.4 for males and 2.1 for females at ages 10 to 14. After ten years of age the rates are practically negligible, but a few deaths from measles continue to occur throughout practically the whole of life to its very extreme. There was recently a death from measles in the case of a woman over eighty years of age.

In the registration area for 1920 the measles death rate was 9.3 for the white population and 4.1 for the colored. This lesser incidence of measles in the colored population has been observed for many years and under widely varying conditions. The measles death rate is also generally much higher in cities, having been 10.3 in 1920 for cities of the registration states against 7.4 per 100,000 in the rural portion of the same area.

The measles death rate for the last ten years in the registration area has fluctuated as follows:

MORTALITY FROM MEASLES 1917-26 — RATES PER 100,000.

| | United States Registration Area. | | England and Wales. |
|---|---|---|---|
| 1917 | 4.3 | 1917 | 30.4 |
| 1918 | 10.8 | 1918 | 28.4 |
| 1919 | 3.9 | 1919 | 10.0 |
| 1920 | 8.8 | 1920 | 19.2 |
| 1921 | 4.3 | 1921 | 5.9 |
| 1922 | 4.3 | 1922 | 14.9 |
| 1923 | 10.8 | 1923 | 13.8 |
| 1924 | 8.6 | 1924 | 12.4 |
| 1925 | 2.3 | 1925 | 13.7 |
| 1926 | 8.2 | 1926 | 8.9 |

The corresponding death rates for measles for England and Wales have been given in the adjoining column.

## Scarlet Fever.

The number of deaths from scarlet fever in the United States registration area in 1926 was 2,662 against 2,762 in 1925. The death rates per 100,000 of population were therefore respectively 2.5 and 2.7. The mortality from scarlet fever has been materially reduced during recent years, having been as high as 10.2 during 1900 and 11.6 during 1910. It reached its lowest point in 1925. The rate for the two sexes is about the same, being slightly higher for females. In 1920 in the registration states, the rate was 5.0 for males and 5.5 for

females. The mortality reaches its highest point after the first year of life, commencing for males with a rate of 14.6 at ages under one, increasing to 29.4 at ages 1 to 4, diminishing to 12.9 at ages 5 to 9 and to 5.1 at ages 10 to 14. After this the rate becomes negligible. For the females the rate starts at 9.3 for ages under 1, increasing to 28.6 at ages 1 to 4, diminishing to 7.0 at ages 5 to 9, and to 4.4 at ages 10 to 14, after which it gradually diminishes almost to the end of life. As in the case of diphtheria, the rate for colored populations is invariably very much lower. In the registration area for 1920 the rate was 5.0 for the white and only 0.8 for the colored population. The rate is higher in cities, having been in 1920 5.4 in cities of the registration states and 3.9 in the rural portion of the same states. There is not much differences in the corresponding rate for England and Wales, which in 1926 was 1.7 per 100,000, or respectively 1.9 for males and 1.6 for females. In England and Wales the rate has also diminished during recent years, having been as high as 3.9 in 1916, and reaching another maximum point in 1920 when it was 3.8; 1926 was the lowest year on record.

## Diphtheria.

The number of deaths from diphtheria in the United States during 1926 was about 8,000. The death rate was 7.5 per 100,000 against 7.8 during 1925. During the last three years the rate has undergone a marked reduction, but there are no indications that the disease will be brought completely under control within a measurable period of time. During the last ten years, the death rate has been as follows. The corresponding statistics for England and Wales have been included for comparison.

MORTALITY FROM DIPHTHERIA 1917–26 — RATES PER 100,000.

| United States Registration Area. | | England and Wales. | |
|---|---|---|---|
| 1917 | 16.6 | 1917 | 13.0 |
| 1918 | 13.9 | 1918 | 14.0 |
| 1919 | 14.7 | 1919 | 13.7 |
| 1920 | 15.3 | 1920 | 15.1 |
| 1921 | 17.7 | 1921 | 12.6 |
| 1922 | 14.6 | 1922 | 10.7 |
| 1923 | 12.1 | 1923 | 7.1 |
| 1924 | 9.4 | 1924 | 6.4 |
| 1925 | 7.5 | 1925 | 7.1 |
| 1926 | 7.8 | 1926 | 7.7 |

In 1920 in the registration states the male rate was 18.1 and the female rate 16.9. In England and Wales in 1926 the male rate was 7.6 and the female rate 7.7. The two sexes have, therefore, practically the same mortality. The white mortality rate from diphtheria was 16.0 and the colored mortality 8.4, or in other words, the negroes

have about half the liability to the disease as the whites. The urban death rate from diphtheria in 1920 was 18.9 and the rural 12.1. These rates though somewhat out of date nevertheless establish normal conditions which probably have not altered materially in the meantime.

By age periods the mortality has been as follows:

MORTALITY FROM DIPHTHERIA BY AGE, REGISTRATION STATES 1920.

| Age. | Males. | Females. |
|---|---|---|
| Under 1 year | 108.6 | 90.7 |
| 5 to 9 years | 52.8 | 53.8 |
| 10 to 14 years | 12.9 | 14.9 |
| 15 to 19 years | 3.0 | 4.6 |

From twenty onwards the rate is negligible, but a few deaths continue to occur practically throughout the whole of life.

## Whooping Cough.

Whooping cough in 1926 caused 9,317 deaths in the registration area or approximately not far from 10,000 deaths in the total Continental United States. The rate per 100,000 of population was 8.9 against 6.7 during 1925. The rate fluctuates considerably from year to year as shown by the following table for 1917–26:

MORTALITY FROM WHOOPING COUGH 1917–26 — RATE PER 100,000.

| | United States Registration Area. | | England and Wales. |
|---|---|---|---|
| 1917 | 10.5 | 1917 | 13.2 |
| 1918 | 16.9 | 1918 | 29.1 |
| 1919 | 5.8 | 1919 | 7.4 |
| 1920 | 12.5 | 1920 | 11.8 |
| 1921 | 9.1 | 1921 | 12.1 |
| 1922 | 5.6 | 1922 | 16.7 |
| 1923 | 9.7 | 1923 | 10.8 |
| 1924 | 8.3 | 1924 | 10.3 |
| 1925 | 6.7 | 1925 | 15.6 |
| 1926 | 8.9 | 1926 | 10.5 |

The male rate in 1920 was 10.9 while the female rate was 13.1. A slight excess in the female rate is generally met with. In England and Wales in 1926 the male rate was 10.0 and the female rate 11.0. The white rate in 1920 was 11.8 and the colored rate 20.5. In other words the negro mortality was practically twice the rate of the white race. This, also, is a well observed phenomenon in whooping cough experience. The urban rate was 11.7 and the rural rate slightly higher or 13.2. The significance of whooping cough as a mortality factor is frequently overlooked. In 1926 whooping cough caused more deaths than any other one of the infectious diseases of infancy. The order of importance was as follows: Whooping cough, 9,317 deaths; measles, 8,607 deaths; diphtheria, 7,856 deaths; and scarlet fever, 2,662 deaths. *(To be continued.)*

## ATTENTION, VACATIONISTS.

### TYPHOID FEVER HAS OFTEN BEEN TERMED A "VACATION DISEASE."

**Many cases and deaths occur in the summer and autumn after people have returned from vacations.**

**They can be prevented by simple measures.**

### CLEANLINESS AND ANTITYPHOID INOCULATION ARE THE WEAPONS.

**Do not bring typhoid back with you into a city that has the lowest death rate of the big cities in the country.**

**Antityphoid inoculation may be given by your physician or free of expense by the Health Department.**

**This is a safeguard for yourself, the community and the entire city.**

### PROTECT YOURSELF BEFORE YOU START ON WEEK-END TRIPS OR ON REGULAR VACATIONS.

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## SUMMARY OF THE WORK, JUNE, 1928.

### BUREAU OF ADMINISTRATION.

| | | | |
|---|---|---|---|
| Prosecutions ordered | 7 | Personal: | |
| Legal notices | 168 | Temporary appointment extended | 1 |
| Contract awarded | 1 | Temporary appointment | 1 |
| Personnel: | | Provisional appointment | 1 |
| Leave of absence | 1 | Provisional appointment terminated | 3 |
| Appointments, permanent | 3 | | |
| Salaries increased | 240 | | |
| Promotions, temporary | 4 | | |

### LICENSES, PERMITS, ETC., ISSUED.

| | | | |
|---|---|---|---|
| Burial permits | 1,041 | Manicure-massage | 950 |
| Denatured alcohol | 6 | Milk | 1,507 |
| Dumps approved | 2 | Ice cream | 6 |
| Grease | 2 | Pedlers | 167 |
| Hen licenses | 34 | Garbage transportation | 2 |

### MEDICAL DIVISION.

| | | | |
|---|---|---|---|
| Reported cases | 1,247 | Visits: | |
| Non-residents | 75 | By investigator | 281 |
| Visits: | | Cases brought to Boston for treatment | 75 |
| By medical inspectors | 746 | Deaths investigated | 30 |
| By veterinarian | 250 | | |

## MONTHLY REPORT OF VENEREAL DISEASE ACTIVITIES.
## JUNE, 1928.

### SYPHILIS.

| | |
|---|---|
| Current cases under investigation June 1, 1928 | 20 |
| New cases during June | 13 |
| Total | 33 |

Disposition of Cases.

| | |
|---|---|
| Under treatment | 4 |
| False address | 3 |
| Unable to locate | 3 |
| Moved out of town | 1 |
| Under investigation June 30 | 22 |
| Total | 33 |
| New cases reported by number | 49 |

### GONORRHEA.

| | |
|---|---|
| Current cases under investigation June 1, 1928 | 49 |
| New cases during June | 53 |
| Total | 102 |

Disposition of Cases.

| | |
|---|---|
| Under treatment | 11 |
| False addresses | 9 |
| Unable to locate | 17 |
| Moved out of town | 4 |
| Under investigation June 30 | 61 |
| Total | 102 |
| New cases reported by number | 165 |

### SUMMARY.

| | |
|---|---|
| Current cases under investigation June 1, 1928 | 69 |
| New cases during June | 66 |
| Total | 135 |

Disposition of Cases.

| | |
|---|---|
| Under treatment | 15 |
| False address | 11 |
| Unable to locate | 20 |
| Moved out of town | 5 |
| Misuse of name | 1 |
| Under investigation June 30, 1928 | 83 |
| Total | 135 |
| Visits by venereal investigator | 281 |

### COMPLAINTS AND SOURCES OF INFECTION.

| | |
|---|---|
| Placed under treatment | 4 |
| Venereal deaths investigated | 2 |

# REPORT OF TUBERCULOSIS DIVISION, JUNE, 1928.

In the month of June there were 103 clinic sessions held. Distribution of clinics was as follows:

| | |
|---|---|
| South End Health Unit | 15 |
| East Boston Health Unit | 13 |
| North End Health Unit | 11 |
| West End Health Unit | 12 |
| South Boston Health Unit | 7 |
| Boston Dispensary Clinic | 12 |
| Brighton Clinic | 7 |
| Charlestown Clinic | 9 |
| Codman Square Clinic | 9 |
| Hyde Park Clinic | 8 |
| Total | 103 |
| Total number of cases | 1,318 |

| Districts. | Total Number of Cases at Clinics. | | | Total Number of New Cases at Clinics. | | |
|---|---|---|---|---|---|---|
| | Adults. | Children. | Total. | Adults. | Children. | Total. |
| South End | 152 | 167 | 319 | 32 | 33 | 65 |
| East Boston | 119 | 166 | 285 | 22 | 19 | 41 |
| North End | 77 | 76 | 153 | 16 | 15 | 31 |
| West End | 65 | 47 | 112 | 16 | 9 | 25 |
| South Boston | 48 | 32 | 80 | 10 | 8 | 18 |
| Boston Dispensary | 47 | 29 | 76 | 16 | 1 | 17 |
| Brighton | 25 | 10 | 35 | 3 | 3 | 6 |
| Charlestown | 33 | 20 | 53 | 7 | 7 | 14 |
| Codman square | 90 | 64 | 154 | 16 | 22 | 38 |
| Hyde Park | 23 | 28 | 51 | 4 | 14 | 18 |
| Totals | 679 | 639 | 1,318 | 142 | 131 | 273 |

| Districts. | Von Pirquet. | Wassermann. | Lamp. | X-Ray. |
|---|---|---|---|---|
| South End | 36 | 25 | 67 | 178 |
| East Boston | 47 | 12 | 82 | 57 |
| North End | 21 | 15 | 54 | 59 |
| West End | 16 | 10 | — | — |
| South Boston | 16 | 4 | 67 | 33 |
| Boston Dispensary | 10 | 9 | — | — |
| Brighton | 2 | 3 | — | — |
| Charlestown | 11 | 7 | — | — |
| Codman square | 19 | 6 | — | — |
| Hyde Park | 11 | 2 | — | — |
| Totals | 189 | 93 | 270 | 327 |

## TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING JUNE, 1928.

| Classification. | Number. | Percentage. |
|---|---|---|
| After death | 7 | 14.89 |
| Seven days or less | 3 | 6.38 |
| Eight to fourteen days, inclusive | 1 | 2.13 |
| Fifteen to twenty-one days, inclusive | — | — |
| Twenty-two to thirty-one days, inclusive | — | — |
| Within First Month. (Total) | 11 | 23.40 |
| Within second month | 8 | 17.02 |
| Within third month | 4 | 8.51 |
| Within fourth month | 2 | 4.25 |
| Within fifth month | — | — |
| Within sixth month | 1 | 2.13 |
| Within seventh month | 3 | 6.38 |
| Within eighth month | — | — |
| Within ninth month | 1 | 2.13 |
| Within tenth month | — | — |
| Within eleventh month | — | — |
| Within twelfth month | 1 | 2.13 |
| Within First Year Preceding Death. (Total) | 31 | 65.95 |
| Within second year | 5 | 10.64 |
| Within third year | 1 | 2.13 |
| More than three years | 10 | 21.28 |
| Grand totals | 47 | 100.00 |

# CHILD HYGIENE DIVISION.

## REPORT OF ACTIVITIES OF MEDICAL INSPECTORS JUNE, 1928.

| | |
|---|---|
| Inspections | 450 |
| Physical examinations made | 304 |
| Schick tests | 170 |
| Toxin-antitoxin administrations | 195 |
| Vaccinations | 256 |
| Vaccination certificates issued | 233 |
| Antityphoid inoculations | 2 |
| Day nursery visits | 39 |
| Parochial school visits | 5 |
| Conferences | 3 |
| Special examinations | 46 |

# REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES FOR JUNE, 1928.

| Station. | Toxin–Antitoxin. | | | | Number of Vaccinations. |
|---|---|---|---|---|---|
| | First. | Second. | Third. | Total. | |
| Old Town Hall, Brighton | 15 | 16 | 19 | 50 | 15 |
| 31 Lincoln street, Brighton | — | — | 2 | 2 | 9 |
| Charlestown Municipal Building | — | — | — | — | 20 |
| Codman Square Library | 4 | 8 | 1 | 13 | 86 |
| Columbia Road Municipal Building | — | — | — | — | 102 |
| 1 Arcadia street, Dorchester | — | — | — | — | 112 |
| East Boston Health Unit | — | — | — | — | — |
| Hyde Park Municipal Building | 1 | 4 | 1 | 6 | 19 |
| Curtis Hall, Jamaica Plain | 2 | — | 2 | 4 | 13 |
| 41 North Margin street | 8 | 3 | 1 | 12 | 60 |
| Roslindale Municipal Building | — | — | — | — | 28 |
| Beth Israel Hospital | — | — | — | — | 18 |
| Children's Hospital | 7 | 5 | 6 | 18 | 15 |
| 1049 Columbus avenue | 9 | 1 | 3 | 13 | 91 |
| Vine Street Municipal Building | — | — | 8 | 8 | 37 |
| 133 Dorchester street, South Boston | — | 1 | — | 1 | 56 |
| 122 Tyler street | 3 | 1 | 2 | 6 | 19 |
| Shawmut Avenue Municipal Building | 14 | 13 | 9 | 36 | 15 |
| 57 East Concord street | 1 | 1 | 4 | 6 | 26 |
| 17 Blossom street | — | — | — | — | — |
| Totals | 64 | 53 | 58 | 175 | 741 |

# MONTHLY REPORT OF CHILD HEALTH CONFERENCES JUNE, 1928.

| Station. | Number of Babies. | Number of Pre-school. | Total Attendance. | Number of New Babies. | Number of Preschool. | Total New Cases. | Number of Conferences. | Average Attendance. |
|---|---|---|---|---|---|---|---|---|
| Old Town Hall, Brighton | 227 | 34 | 261 | 27 | 3 | 30 | 4 | 65 |
| 31 Lincoln street, Brighton | 92 | 14 | 106 | 16 | — | 16 | 4 | 25 |
| Charlestown Municipal Building | 198 | 13 | 211 | 29 | — | 29 | 7 | 30 |
| Codman Square Library | 342 | 67 | 409 | 58 | 13 | 70 | 7 | 58 |
| Columbia Road Municipal Building | 401 | 15 | 416 | 41 | 3 | 44 | 7 | 59 |
| 1 Arcadia street, Dorchester | 256 | 14 | 270 | 44 | 2 | 46 | 8 | 34 |
| East Boston Health Unit | 389 | 17 | 406 | 73 | 3 | 76 | 7 | 58 |
| Hyde Park Municipal Building | 147 | 10 | 157 | 19 | 1 | 20 | 3 | 52 |
| Curtis Hall, Jamaica Plain | 176 | 8 | 184 | 45 | — | 45 | 4 | 46 |
| 41 North Margin street | 289 | 130 | 419 | 46 | 7 | 53 | 8 | 52 |
| Roslindale Municipal Building | 195 | 46 | 241 | 17 | 6 | 23 | 3 | 80 |
| Beth Israel Hospital | 153 | 28 | 181 | 4 | 1 | 25 | 4 | 45 |
| Children's Hospital | 127 | 11 | 138 | 26 | 2 | 28 | 4 | 35 |
| 1049 Columbus avenue | 324 | 37 | 361 | 51 | 7 | 58 | 8 | 45 |
| Vine Street Municipal Building | 327 | 18 | 345 | 44 | 7 | 51 | 8 | 43 |
| 133 Dorchester street, South Boston | 313 | 41 | 354 | 62 | 19 | 81 | 8 | 44 |
| 122 Tyler street | 118 | 28 | 146 | 18 | 2 | 20 | 4 | 37 |
| Shawmut Avenue Municipal Building | 138 | 34 | 172 | 21 | 2 | 23 | 4 | 43 |
| 57 East Concord street | 126 | 14 | 140 | 20 | 1 | 21 | 4 | 37 |
| 17 Blossom street | 337 | 69 | 406 | 33 | 3 | 36 | 7 | 58 |
| Totals | 4,675 | 648 | 5,323 | 714 | 82 | 796 | 113 | 47 |

MISCELLANEOUS UNIT ACTIVITIES:

| | |
|---|---|
| Complaint of insanitary conditions | 232 |
| Number of persons given health and other information | 1,691 |
| City visitors | 33 |
| Out of city visitors | 28 |

DENTAL SERVICE:

| | |
|---|---|
| Number of children's teeth cleaned | 153 |
| Number of children treated | 1,694 |
| Prophylaxis | 2,293 |

EYE SERVICE:

| | |
|---|---|
| New cases | 46 |
| Number of refractions | 64 |
| Number of glasses prescribed | 39 |
| Number of examinations for diagnosis | 30 |

CHILD HYGIENE DIVISION:

| | |
|---|---|
| Number of child health conferences | 34 |
| Total attendance at conferences | 1,725 |
| New babies at conferences | 234 |
| New preschool age children at conferences | 33 |
| Vaccinations performed | 263 |
| Vaccination certificates issued | 232 |
| Number of posture clinics | 22 |
| Total attendance at posture clinics | 308 |
| Toxin-antitoxin administrations | 164 |
| Examined for day nurseries | 243 |

TUBERCULOSIS CLINICS:

| | |
|---|---|
| Number of clinics | 46 |
| Attendance at tuberculosis clinics | 722 |
| New cases | 130 |
| X-ray examinations | 342 |

NURSING SERVICE:

| | |
|---|---|
| Homes visited by nurses | 5,571 |
| Total visits to babies and preschool children | 3,578 |
| Total communicable disease visits | 763 |
| Total tuberculosis visits | 1,898 |
| Infant death investigations | 17 |
| Special visits | 4 |
| Alpine lamp treatments | 191 |

BOSTON LYING-IN HOSPITAL:

Pre-natal Clinic:

| | |
|---|---|
| Number of clinics | 7 |
| Attendance | 105 |
| New cases | 27 |

| | |
|---|---|
| COMMUNITY HEALTH ASSOCIATION: | |
| General Division: | |
| Home visits by nurses | 8,789 |
| BOSTON DISPENSARY: | |
| Calls by district physician | 67 |
| STATE DEPARTMENT OF MENTAL DISEASES: | |
| Number of clinics | 9 |
| Attendance at clinics | 23 |
| Visits of workers | 83 |
| New cases | 6 |
| INFANTILE CLINIC OF CHILDREN'S HOSPITAL: | |
| Number of clinics | 10 |
| Attendance | 75 |

## NURSING SERVICE.

| | | |
|---|---|---|
| HOMES VISITED | | 16,445 |
| CHILD HYGIENE: | | |
| Visits to new cases | 1,641 | |
| Visits to old cases | 9,664 | |
| Total | | *11,305 |
| COMMUNICABLE DISEASES: | | |
| Visits to new cases | 738 | |
| Visits to old cases | 2,481 | |
| Total | | †3,219 |
| TUBERCULOSIS: | | |
| Visits to new cases | 236 | |
| Visits to old cases | 4,577 | |
| Total | | ‡4,813 |
| MISCELLANEOUS VISITS: | | |
| Infant death investigations | 98 | |
| Maternal death investigations | 4 | |
| Visits to day nurseries | 4 | |
| Visits to parochial schools | 25 | |
| Posture clinics | 23 | |
| Patients accompanied to hospitals | 5 | |
| Total | | 159 |
| Total number of visits | | 19,337 |

* Includes 136 wrong addresses; 1,157 not seen; 1,293 absent visits.

† Includes 13 wrong addresses; 89 not seen; 102 absent visits; 144 ophthalmia.

‡ Includes 50 wrong addresses; 474 not seen; 524 absent visits; 2,149 positive cases; 1,341 contact cases; 799 suspect cases.

| | Hrs. | Min. |
|---|---|---|
| Hours in station by nurses | 3,062 | 15 |
| Hours in baby conferences | 1,636 | 35 |
| Hours in tuberculosis clinics | 806 | 00 |
| Hours in posture clinics | 47 | 00 |
| Hours in parochial schools | 28 | 50 |
| Hours in nurses' conferences | 265 | 25 |
| Total number of hours | 5,846 | 05 |

## BACTERIOLOGICAL LABORATORY.

| | |
|---|---|
| Diphtheria | 669 |
| Tuberculosis | 539 |
| Typhoid | 29 |
| Gonorrhea | 757 |
| Gonorrheal ophthalmia | 62 |
| Syphilis | 1,202 |
| Other examinations * | 325 |
| Bacteriological examinations of milk | 467 |
| Bacteriological examinations of ice cream | 63 |
| Milk bottles examined | 12 |
| Caps for milk bottles examined | 36 |
| Swimming pools examined | 64 |
| Beaches examined | 36 |

## FOOD INSPECTION ACTIVITIES.

### BUREAU OF MILK INSPECTION.

#### SAMPLES EXAMINED.

CHEMICAL:

| | |
|---|---|
| Milk from wagons | 228 |
| Milk from stores | 777 |
| Milk brought by citizens | 23 |
| Vinegar | 14 |
| Cheese | 2 |
| Evaporated milk | 1 |
| Water | 2 |
| Canned shrimp | 2 |
| Macaroni products | 5 |
| Ice cream | 2 |

* Malaria, 1; smears for virulence, 3; genito-urinary tuberculosis, 25; paratyphoids, 2; dark field, 1; roast beef for bacteria, 1; pork shoulder for bacteria, 1; stools for tuberculosis, 1; stools for typhoid, 1; smears for Vincent's angina, 6; smears for leprosy, 2; bread for poison, 1; cake for foreign matter, 1; pork chops for poison, 1; ham for poison, 1; pleural fluid for tuberculosis, 1; urines, 258; feces for B. typhosus, 9; urines for B. typhosus, 8.

## SURVEY OF THE QUALITY OF MILK SOLD BY BOSTON WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during June, 1928. Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat; for bacteria, it is required that it contain per cubic centimeter not more than 100,000 in pasteurized milk and in raw milk and not more than 10,000 in certified milk.

### Key to Kind of Milk.

P means pasteurized milk.

C means raw certified milk, the only kind sold by this dealer.

R means raw milk from accredited herds of tuberculin-tested cows, the only kind sold by this dealer.

| Name of Dealer. | Kind of Milk. | Solids. | Fat. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| | | Per Cent. | Per Cent. | |
| Allen, Fred H. | P | 12.92 | 4.10 | 26 |
| Antetomasso, Peter | P | 12.50 | 3.80 | 14 |
| Barron, C. W. | C | 13.80 | 4.85 | 7 |
| Bergman, J. H. | P | 12.66 | 4.00 | 21 |
| Bolio, William | R | 13.49 | 5.30 | 15 |
| Brandley, F. J. & P. J. | R | 12.40 | 4.00 | 30 |
| Casey, James | P | 12.10 | 3.60 | 36 |
| Cashin, James | P | 12.62 | 3.93 | 34 |
| Cedar Hill | C | 13.27 | 4.45 | 60 |
| Chapin, George | P | 12.70 | 4.00 | 20 |
| Clapp, Frank L. | R | 12.54 | 4.00 | 60 |
| Clark, Levi | P | 12.13 | 3.75 | 62 |
| Corkery, J. J. | P | 12.55 | 3.95 | 59 |
| Cosgrove, Martin S. | P | 13.43 | 4.85 | 26 |
| Cummings, F. S. | P | 12.33 | 3.74 | 18 |
| Cunningham, Paul | R | 12.87 | 4.15 | 30 |
| Daley, John | P | 12.05 | 3.60 | 18 |
| Dean, Louis W. | P | 13.22 | 4.13 | 46 |
| Deerfoot Farm | P | 12.83 | 4.13 | 19 |
| Denehy, Timothy | P | 12.30 | 3.45 | 18 |
| Driscoll, William B., Company | P | 12.60 | 3.93 | 18 |
| Edgerly, Frank S. | P | 12.83 | 4.08 | 26 |
| Elm Spring Farm Company | P | 12.47 | 3.75 | 22 |
| Ferguson, M. D. | P | 12.63 | 3.85 | 20 |
| Garfield, Mason | R | 14.69 | 5.25 | 15 |

| Name of Dealer. | Kind of Milk. | Solids. | Fat. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| | | Per Cent. | Per Cent. | |
| Garvin, Charles E. | P | 14.44 | 5.23 | 22 |
| Giroux, J. E. & H. J. | P | 12.51 | 3.80 | 18 |
| Griffin, Joseph L. | P | 12.51 | 3.70 | 17 |
| Gushee, Chester W. | P | 12.83 | 4.00 | 30 |
| Herlihy Brothers | P | 12.22 | 3.65 | 57 |
| Hickey Brothers | P | 12.38 | 3.98 | 26 |
| Holden, John E. | P | 12.30 | 3.70 | 24 |
| Hood, H. P., & Sons | P | 12.37 | 3.82 | 54 |
| Hutchinson, F. T. | P | 12.31 | 3.68 | 15 |
| Jones, William T., Company | P | 12.76 | 3.95 | 30 |
| Kendall Brothers | P | 12.29 | 3.62 | 48 |
| Kingston, Samuel | P | 12.66 | 3.85 | 40 |
| Knapp, George J. | P | 12.37 | 3.70 | 24 |
| Lang Brothers | P | 12.46 | 3.78 | 21 |
| Larson, Charles | P | 12.81 | 4.05 | 26 |
| LeBaron, Frederick | R | 13.00 | 3.95 | 29 |
| Lincoln Farms | R | 15.56 | 6.53 | 23 |
| Ludwig Brothers | P | 13.01 | 4.08 | 20 |
| Lyndonville Creamery | P | 13.03 | 4.22 | 33 |
| Manning, Peter | P | 12.54 | 3.60 | 28 |
| McAdams, J. F. | P | 12.71 | 3.90 | 19 |
| McKernon, James F. | P | 12.53 | 3.93 | 26 |
| Munchback, George | P | 12.39 | 3.80 | 19 |
| New England Creamery Products Company | P | 12.72 | 4.00 | 22 |
| Pine Grove Dairy, Inc. | P | 12.40 | 3.78 | 26 |
| Robinson, A. J. | P | 12.95 | 4.22 | 216 |
| Schuster, Adam | P | 12.76 | 3.95 | 20 |
| Seven Oaks | P | 12.42 | 3.73 | 19 |
| Shick, Jacob | P | 12.57 | 3.80 | 33 |
| Somerset Farms | P | 13.36 | 4.65 | 18 |
| Sterling Farms Milk | P | 12.25 | 3.62 | 17 |
| Stone, H. L. | P | 12.42 | 3.83 | 21 |
| Stuart, W. E. | P | 12.72 | 4.10 | 18 |
| Turner Center System | P | 12.59 | 3.80 | 21 |
| United Farmers' Co-operative Creamery Company | P | 12.74 | 3.98 | 19 |
| Vartanian, S. | P | 12.36 | 3.70 | 18 |
| Vartanian, K. | P | 12.64 | 3.90 | 18 |
| Walker-Gordon | C | 12.65 | 3.95 | 7 |
| Weiller, E., & Son | P | 12.98 | 4.20 | 18 |

| Name of Dealer. | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| Westwood Farms | P | 12.51 | 3.88 | 21 |
| White Brothers | P | 12.76 | 3.90 | 16 |
| Whiting Milk Companies | P | 12.42 | 3.73 | 21 |
| Whittemore, W. D. | P | 12.62 | 3.90 | 18 |
| Williams, Edward C. | P | 12.67 | 4.13 | 22 |
| Wiswall, George A. | P | 12.20 | 3.55 | 16 |
| Woodland, Charles L. | P | 12.92 | 4.18 | 26 |

## CHAIN STORE MILK.

| Name of Dealer. | Supplied by. | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|---|
| The Great Atlantic & Pacific Tea Company. | Hood & Sons | P | 12.29 | 3.73 | 35 |
| Brown, M., & Sons | Whiting Companies | P | 12.24 | 3.63 | 549 |
| Cloverdale Company | Turner Center System | P | 12.53 | 3.80 | 21 |
| Economy Grocery Stores | Whiting Companies | P | 12.37 | 3.72 | 34 |
| First National Stores, Inc. | Bellows Falls Co-operative Creamery. | P | 12.83 | 3.93 | 16 |
| Morgan Brothers Company. | New England Creamery Products Company. | P | 12.63 | 3.97 | 88 |
| Winer, M., Company | Hyman Winer | P | 12.77 | 3.95 | 34 |

## DAIRY DIVISION.

| | | | |
|---|---|---|---|
| Total services | 987 | Total cattle inspected | 8,208 |
| Dairies inspected | 606 | Inspections of milk plants and licensed dealers | 203 |
| Scoring above 50 * | 400 | Bacteriological examinations | 10 |
| Scoring below | 206 | Country creamery inspections | 21 |
| With milk rooms | 392 | Sediment tests | 133 |
| Without milk rooms | 214 | | |
| Inactive | 11 | | |

* Passable mark.

## MARKET, STORE AND RESTAURANT SERVICE.

| | |
|---|---|
| Reinspections | 308 |
| Stores inspected | 3,971 |
| Sanitary defects remedied | 122 |
| Complaints at office | 62 |
| Referred to Sanitary Division | 8 |
| Milk applicants | 22 |
| Notices to abate nuisances | 163 |
| Court cases | 2 |

| | |
|---|---|
| Convictions | 2 |
| Fines | $100 |
| Applications for pedlers' licenses approved | 149 |
| Vehicles inspected and approved | 671 |
| Laboratory Examinations: | |
| Bacteriological | 3 |
| Chemical | 4 |

### CONDEMNATIONS.

| | | | |
|---|---|---|---|
| Meat: | | Fish: | |
| Beef | 1,741 pounds | Halibut | 18 pounds |
| Bear | 31 pounds | Mackerel | 25 pounds |
| Corned beef | 10 pounds | Clams | 1½ bushels |
| Frankfurters | 27 pounds | Fruit: | |
| Heart (beef) | 1 pound | Cantelopes | 20 |
| Lamb | 15 pounds | Cherries | 350 pounds |
| Lard | 9 pounds | Pineapples | 51 crates |
| Liver | 27 pounds | Strawberries | 44 crates |
| Livers | 44 pounds | Strawberries | 80 quarts |
| Plucks | 76 pounds | Vegetables: | |
| Pork | 166 pounds | Rhubarb | 10 pounds |
| Poultry | 130 pounds | Spinach | 1 bushel |
| Sweetbreads | 93 pounds | Tomatoes | 221 crates |
| Tongues | 11 pounds | Tomatoes | 650 pounds |
| Veal | 1,520 pounds | Turnips | 11 bags |

### LIVE STOCK INSPECTION (Brighton Abattoir).

| | | | |
|---|---|---|---|
| Cattle inspected | 2,771 | Parts condemned (lbs.) | 15,702 |
| Calves inspected | 3,285 | Animals condemned | 46 |
| Swine inspected | 3,880 | | |

## SANITARY INSPECTION.

| | | | |
|---|---|---|---|
| Original inspections | 2,947 | Fines | $20 |
| Reinspections | 7,627 | Complaints investigated | 776 |
| Legal notices served | 194 | Cause for action found | 1,808 |
| Complaints investigated | 776 | Nuisances abated | 2,032 |
| Court cases authorized | 3 | | |

**It is due to ignorance, and is a reflection upon the intelligence of any person, to become ill with typhoid fever or smallpox. Protective means have been discovered by which these diseases may be banished. It has been demonstrated that vaccination will protect you. Why not take advantage of this really free protection?**

**VACCINATION IS SAFE — IT IS SOUND — IT IS SURE.**

# VITAL STATISTICS, JUNE, 1928.

## BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING JUNE, 1928, WITH COMPARATIVE FIGURES FOR JUNE, 1927.

| | BIRTHS AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **All Causes:** | | | | | | |
| Total deaths | 896 | 852 | +44 | 13.45 | 12.89 | +.56 |
| Nonresidents deducted | 699 | 695 | +4 | 10.49 | 10.52 | —.03 |
| **By Age:** | | | | | | |
| Under one year | 127 | 138 | —11 | 1.91 | 2.09 | —.18 |
| One year to four years, inclusive | 51 | 36 | +15 | .76 | .54 | +.22 |
| Sixty years and over | 342 | 302 | +40 | 5.13 | 4.57 | +.56 |
| **By Special Causes:** | | | | | | |
| Degenerative Diseases, So Called: | | | | | | |
| Apoplexy | 42 | 49 | —7 | .63 | .74 | —.11 |
| Arteriosclerosis | 19 | 19 | — | .28 | .29 | —.01 |
| Heart disease | 163 | 146 | +17 | 2.45 | 2.21 | +.24 |
| Nephritis, chronic | 46 | 45 | +1 | .69 | .68 | +.01 |
| Infant and Maternal Mortality: | | | | | | |
| *a.* Total registered live births | 1,249 | 1,473 | —224 | 18.75 | 22.29 | —3.54 |
| *b.* Registered stillbirths | 34 | 39 | —5 | .51 | .59 | —.08 |
| Stillbirths per 1,000 births and stillbirths | — | — | — | 26.50 | 25.79 | —.71 |
| *c.* Deaths of mothers from causes incident to childbirth | 10 | 15 | —5 | .15 | .23 | —.08 |
| Deaths of mothers per 1,000 births and stillbirths | — | — | — | 7.79 | 9.92 | —2.13 |
| Deaths of children in first year of life | 127 | 138 | —11 | 1.91 | 2.09 | —.18 |
| Deaths in first year per 1,000 live births, | — | — | — | 101.68 | 93.69 | +7.99 |
| Violence: | | | | | | |
| Accidents | 47 | 48 | —1 | .70 | .73 | —.03 |
| Homicides | 1 | 3 | —2 | .015 | .04 | —.025 |
| Suicides | 8 | 7 | +1 | .12 | .10 | +.02 |
| Miscellaneous: | | | | | | |
| Alcoholism, acute or chronic | 8 | 15 | —7 | .12 | .23 | —.11 |
| Broncho-pneumonia | 62 | 36 | +26 | .93 | .54 | +.39 |
| Cancer | 96 | 87 | +9 | 1.44 | 1.32 | +.12 |
| Cirrhosis of the liver | 7 | 13 | —6 | .10 | .20 | —.10 |
| Diabetes mellitus | 10 | 14 | —4 | .15 | .21 | —.06 |
| Diarrheal diseases, children under two years of age | 14 | 13 | +1 | .21 | .20 | +.01 |

| | CASES AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | ACTUAL NUMBER. | | | RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| COMMUNICABLE DISEASES: | | | | | | |
| Anterior poliomyelitis.....Cases.. | 1 | 5 | —4 | .015 | .07 | —.055 |
| Deaths. | 1 | 2 | —1 | .015 | .03 | —.015 |
| Cerebrospinal meningitis.....Cases.. | 3 | 1 | +2 | .04 | .015 | +.025 |
| Deaths. | 2 | 1 | +1 | .03 | .015 | +.015 |
| Diphtheria.....Cases.. | 85 | 134 | —49 | 1.28 | 2.03 | —.75 |
| Deaths. | 4 | 9 | —5 | .06 | .14 | —.08 |
| Influenza.....Cases.. | 14 | 4 | +10 | .21 | .06 | +.15 |
| Deaths. | 3 | — | +3 | .04 | — | +.04 |
| Measles.....Cases.. | 205 | 579 | —374 | 3.08 | 8.76 | —5.68 |
| Deaths. | 4 | 6 | —2 | .06 | .09 | —.03 |
| Pneumonia (lobar).....Cases.. | 107 | 114 | —7 | 1.61 | 1.72 | —.11 |
| Deaths. | 41 | 41 | — | .61 | .62 | —.01 |
| Scarlet fever.....Cases.. | 240 | 332 | —92 | 3.60 | 5.02 | —1.42 |
| Deaths. | 3 | 6 | —3 | .04 | .09 | —.05 |
| Tuberculosis (pulmonary).....Cases.. | 129 | 121 | +8 | 1.94 | 1.83 | +.11 |
| Deaths. | 47 | 51 | —4 | .70 | .77 | —.07 |
| Tuberculosis (other forms).....Cases.. | 43 | 39 | +4 | .64 | .59 | +.05 |
| Deaths. | 10 | 8 | +2 | .15 | .12 | +.03 |
| Typhoid fever.....Cases.. | 6 | 2 | +4 | .09 | .03 | +.06 |
| Deaths. | — | — | — | — | — | — |
| Whooping cough.....Cases.. | 115 | 58 | +57 | 1.73 | .88 | +.85 |
| Deaths. | 6 | — | +6 | .09 | — | +.09 |

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1928 (mid-year), based upon the federal census of 1920, has been used.

**DO NOT DESTROY.**

When you have no further use for this Circular give it to someone else.

1103 1859

MONTHLY BULLETIN

# HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the EDITOR MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

Rec'd SEP 14 1928 H. P. L.

VOL. 17. BOSTON, AUGUST, 1928. No. 8

## CARE OF INFANTS IN SUMMER.

During the summer months more attention must be given to the care of the infant at home since during the hot weather an enormous number of unnecessary and avoidable deaths occur. Diarrheal diseases, convulsions and other disorders peculiar to the hot summer weather are the leading causes of deaths of infants during the hot summer months. Infants, babies and young children are done much injury by perishable foods on account of the harmful effects of the heat upon the food. Of course, this is particularly true of cow's milk.

At this time especially overeating and overfeeding by infants should be prevented. Breast milk is the best at all times. It is the safest, cheapest and best of all infant foods. There will be less trouble this summer if mothers take heed and feed their infants at the breast. The hot weather always brings with it bowel trouble in bottle-fed babies.

If the mother is unable to nurse her baby she should consult her physician before feeding the baby on the bottle. Nursing and not weaning is the proper thing in hot weather.

The amount of food should be diminished one half and milk should be made up of half water that has been boiled. If cow's milk must be used, see that it is clean, pasteurized milk that has been prepared according to your physician's directions.

The baby should have plenty of fresh air, preferably the open air, and on the shady side of the street. Keep flies and mosquitoes away from it. If unable to get into the street the porch is the next best place. See that the baby does not become overheated.

Very little clothing is needed on the baby during the hot weather. A cotton undershirt will serve as a covering. Have the arms and legs uncovered and free. Let the baby lie on a clean, firm surface and not on a pillow or a heap of clothes. It is not necessary to wrap the baby in the diaper — the baby will be just as clean and more comfortable if allowed to lie on the diaper.

Bathe the baby every day, besides giving it a couple of sponge baths with cool water to which has been added baking soda. For drinking water plenty of cool, boiled water is the best. Ice water should never be given the baby.

## THE LOCAL MILK SITUATION.

In reply to a great many requests, both from individuals and milk dealers, in relation to the milk supply of Boston, the Health Commissioner has issued the following public statement:

A possible element of danger always accompanies the use of raw milk, even though the raw milk be certified.

The experience of the City of Boston in streptococcic sore throat epidemics is that the primary source of infection has been raw milk, containing pus and streptococci, drawn from abnormal udders.

It is a matter of history that in one of the most conspicuous streptococcic sore throat epidemics in Boston and vicinity the primary source of infection was a raw certified milk.

Raw milk is sold in Boston without the approval of the Boston Health Department but with its permission, which permission the Boston Health Department is required by law to give to a limited extent.

We believe that only properly pasteurized milk affords the greatest freedom from danger of a milk-borne epidemic, from any source.

At the present time 99.2 per cent of the total daily milk supply of Boston is pasteurized. The remaining 0.8 per cent is raw milk, of which about three quarters is certified.

The Boston Health Department believes that raw milk is always potentially dangerous and exists on sale in Boston only because the Boston Health Department has no power under the present law to

completely prohibit the sale of raw milk. Wherever raw milk has been used milk-borne epidemics always have and will continue to occur from time to time.

The Boston Health Department advocates the use of properly pasteurized milk exclusively.

The Boston Health Department takes this occasion to assure the public that no milk from the infected area, or its vicinity, has entered Boston or is a source of supply, and further precautions have been taken to preclude the possibility of its entrance.

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## TESTIMONIAL DINNER TO DOCTOR WILINSKY.

Three hundred leaders in Boston's activities sat down to a testimonial dinner to Dr. Charles F. Wilinsky, the first Director of the New Beth Israel Hospital, at the Copley-Plaza Hotel, on the night of May 22. This dinner was tendered by the many friends of the Deputy Health Commissioner in charge of the Division of Child Hygiene of the Boston Health Department who has made such a notable record in health unit operation in Boston that he is a nationally known figure in preventive disease work. It was an inspiration to all who attended to listen to the fulsome praise accorded Doctor Wilinsky by the leaders in the civic and professional life of this city, and the climax came at the finish of the last address when former Mayor Curley, the originator of health units in Boston, and the guiding light on the Board of Trustees of the White Fund, who while a member of that Board made the first suggestion of a chain of health units, withdrew the national flag revealing a massive grandfather's time clock as the dinner gift.

The speakers and those in attendance represented the nation, the state and the city. Preceding the dinner a blessing was asked by Rabbi Samuel J. Abrams. Dr. George H. Bigelow, State Commissioner of Public Health, served as toastmaster and was introduced by Dr. F. X. Mahoney, Health Commissioner. Then followed Rev. George P. O'Conor, Director Catholic Charitable Bureau, Judge A. K. Cohen, President Federated Jewish Societies, Homer N. Calver, Secretary of the American Public Health Association, Dr. Alexander S. Begg, Dean of the Boston University Medical School, Prof. Milton J. Rosenau of the Harvard Medical School (who, with Doctor Wilinsky, has recently made a health survey of Palestine), Dr. John W. Bartol, President of the Boston Health League, President A. A. Ginsberg of the Beth Israel Hospital Trustees, Dr. Harry Linenthal, Chief of the Medical Staff of the new hospital, and Dr. Eli C. Romberg, President of the Greater Boston Medical Societies.

## PROPOSED HEADQUARTERS, MASSACHUSETTS MEDICAL SOCIETY.

For a number of years the work of the Massachusetts Medical Society has steadily increased in scope and volume. In order to carry on its work effectively, the society needs proper quarters for its officers, rooms for small meetings and conferences, and better accommodations for the "Journal." There should be a place where Fellows may be at home and secure information about the affairs of the society and have certain accommodations found in clubs.

Under the inspiration of the president, the Council at its last meeting appointed a committee to consider the matter of securing headquarters and, if thought wise, raise funds for this purpose.

The committee has decided that it is desirable to purchase a house in Boston as a home for the society. It has asked the president and secretary of each district society to be the nucleus of a subcommittee for the district to solicit funds to buy a house. Each subcommittee may be of such size as the local president and secretary determine. It is planned to give every Fellow an opportunity to meet a member of the committee.

There are over four thousand Fellows in the state. It is hoped that at least $125,000 may be raised. This would permit the purchase of a suitable house and provide for a substantial endowment fund to help maintain it.

There is no intention of assigning a quota to any district nor of asking any individual for any specific sum. But as obviously the appeal must be chiefly to the medical profession, each Fellow will be asked to give according to his inclination and ability. Some must give large amounts if adequate funds are to be secured, but these are not to be considered as in any way more liberal gifts than are the smaller amounts given by others.

It is hoped and expected that every Fellow will give something. If each Fellow gives and thus shows his interest and support, the committee has no fear of any lack of large contributions from those able to give them. But if all the Fellows do not give, there is no justification for asking a few to assume the chief burden.

It is hoped that at the annual meeting in Worcester in June the committee may be able to report that the needed funds are in hand to present a home to the society.

When this is obtained, the officers and committees can render to each Fellow more adequate service. Each Fellow will have the home to which he may turn for such help as can be given.

The Massachusetts Medical Society must move forward to be of greater service to its Fellows and to the Commonwealth. Adequate headquarters are the first essential for this work. Your

support is sought. Contributions may be made to the member of the committee from your district, or to the President, Dr. John M. Birnie, 126 Massachusetts avenue, Boston.

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## TUBERCULOSIS IN CHILDREN — AN APPEAL TO THE NATIONAL RED CROSS SOCIETIES

By Professor A. Calmette, *Member of the Institute of France and the Academy of Medicine, Assistant Director of the Pasteur Institute, Paris.*

There is as yet no certain cure for tuberculosis, but there is now no doubt that a method of vaccination exists whereby it is possible to protect very young children against this disease which takes such a heavy toll of life in all quarters of the globe.

This method consists in impregnating, in the first few days after birth, the lymphatic glands of the infant with a culture of an attenuated and living bacillus of the nature of a Pasteur vaccine. It has been named B. C. G. (*Bacille Calmette-Guérin*). These bacilli penetrate into the circulatory system, forming substances which protect against accidental, virulent infection of children born of tuberculous mothers or reared in a family in contact with a person suffering from tuberculosis.

The method of using the B. C. G. vaccine is extremely simple:

On the 5th, 7th and 9th day after birth, at intervals of forty-eight hours, the infant is made to swallow three doses of one centigramme each of bacillary vaccine in a teaspoon and mixed with a few drops of milk. There is no feverish reaction and no discomfort of any kind. About twenty-five days later, the child is immune to accidental virulent infection. During this short period, therefore, it is necessary to take all proper precautions against infection resulting from continuous contact with a person suffering from pulmonary tuberculosis.

Between July 1, 1924, and December 1, 1927, a little over 52,000 children were vaccinated in this way in France, and about the same number in other countries. In no case was there any complication that could be traced to the vaccine. It is therefore absolutely harmless and its protective properties seem to be fully proved, while it has been found that whereas unvaccinated infants brought up in contact with tuberculous parents die in the alarming proportion of one in four before reaching the age of twelve months, the death rate among vaccinated children reared in the same infectious surroundings is less than one per cent! It is particularly to be noted that, of the children vaccinated, not a single one of those having reached or passed the age of two years has died of tuberculosis.

It is not yet possible to determine the duration of the immunity obtained by this vaccination but, according to the results already noted, it is certainly more than five years. Immunity, therefore, lasts at least during infancy when children are most exposed to serious infection, which so frequently leads to tuberculous meningitis. It may even be hoped that this immunity will be maintained throughout life, thanks to minor, accidental infections of a virulent nature to which we are all more or less exposed and which, in the case of persons already inoculated with the bacillary vaccine, are quite harmless.

In France, the B. C. G. vaccine is placed free of charge by the Pasteur Institute (25, rue Dutot, Paris, XV$^{e}$) at the disposal of all maternity hospitals, dispensaries, and social organizations, as well as at the disposal of doctors and midwives who, moreover, by a circular recently issued by the Ministry of Health, are invited to make use of it. In other countries, the Pasteur Institute freely distributes B. C. G. vaccine to all laboratories designated by their respective governments, on the sole condition that the vaccine is prepared and distributed gratuitously under the supervision of the public health authorities. The national Red Cross Societies would be doing eminently useful work if they themselves organized, in their respective countries, services for the preparation and distribution of the vaccine, or if they subsidized official bacteriological institutes with a view to the creation and extension of such services, or, finally, if they could, by means of an energetic campaign, instruct future mothers on the subject of this new method of protecting their babies from tuberculosis. They would thus be helping most effectively gradually to stamp out one of the greatest causes of infant mortality and to protect the coming generation. (*The World's Health.*)

BIBLIOGRAPHY ON B. C. G. VACCINE.

The Pasteur Institute Year Book, 1920 to 1923 (inclusive).

Calmette: *La vaccination préventive contre la tuberculose par le B.C.G.* Published by Masson, 120, Boulevard Saint-Germain, Paris. 1 vol. pp. 250. 1927.

Calmette: *L'infection bacillaire et la tuberculose chez l'homme et chez les animaux.* 1 vol. pp. 884. Published by Masson, Paris, 1928.

Miscellaneous works on the same subject by:

Professor Ascoli, Milan.
Professor R. Kraus, Vienna.
Professor Gerlach, Vienna.
Professor G. Blanc, Athens.
Professor Silbersmith, Zurich.
Professors Malvoz and Van Beneden, Liége.
Dr. Heimbeck, Oslo.
Professor Maximov, Chicago.
Reports of the Ukrainian Commission at Kharkoff, etc.

## ARE AUTOMOBILES DANGEROUSLY POLLUTING THE AIR OF OUR CITIES?

Surgeon-General H. S. Cumming of the United States Public Health Service has recently announced the results of a survey undertaken to ascertain whether or not a health hazard from carbon monoxide existed in the streets of our large cities, inside of auto buses and repair shops. Fourteen of the largest cities in the country were visited, having a combined population of over 19,000,000, and 250 samples of air were obtained for carbon monoxide analysis. These samples were analyzed by the so-called iodine pentoxide method. The average of 141 tests made in city streets at peak hours of traffic showed a contamination of 0.8 part of carbon monoxide per 10,000 of air, and in only one location, a covered passageway, the contamination was as great as 2 parts per 10,000. Samples taken inside of auto buses yielded even lower concentrations of carbon monoxide gas. The figures for street air, when viewed in the light of present-day standards of exposure to carbon monoxide, do not reveal the existence of a health hazard from this source in our city streets. The only individual who may possibly be exposed to a health hazard from inhaling street air containing automobile exhaust gas is the traffic officer.

On the other hand, of the 102 tests made in 27 garages, in the 14 cities visited, the average carbon monoxide content was found to be 2.1 parts in 10,000. More than half of the samples (59 per cent) contained over 1 part of carbon monoxide, and 18 per cent of all samples contained over 4 parts of this gas in 10,000 parts of air. These results for repair shops show a dangerous condition that demands the serious consideration of those concerned. All of these samples were taken in garages of considerable size. The greater danger to life is unquestionably in the small private garage containing one or two cars. Under any circumstances the discharge of an automobile exhaust into a roofed inclosure should be regarded as a hazardous act. (*U. S. P. H. S.*)

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## MEETING OF THE MASSACHUSETTS ASSOCIATION OF BOARDS OF HEALTH.

The regular meeting and luncheon of the Massachusetts Association of Boards of Health was held on July 26 at the Pemberton Inn and Hotel, Pemberton, Mass. The luncheon was in the nature of a shore dinner and clambake, and was followed by the program of the afternoon. Dr. George H. Bigelow, Commissioner of Public Health, read a paper entitled "Food Handling and Contamination" and he also called attention to certain features of the recent shellfish legisla-

tion in Massachusetts. The discussion that followed was contributed by Percy Woodward, Manager, Waldorf System, Inc.; George H. Adams, chief of the Division of Food and Drugs, United States Department of Agriculture; Ellerton J. Brehaut, manager, Civic Bureau, Boston Chamber of Commerce, and Bradbury F. Cushing, manager of the Hotel Statler.

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## VITAL STATISTICS FOR MEDICAL MEN.

*(The following notes are a continuation of the series by Dr. Frederick L. Hoffman, consulting statistician, that began in the November, 1927, issue of the "Bulletin." As explained at that time, these notes will be so written as to make them readable and attractive to medical men, public health workers and laymen, and in such a manner that they will show their direct relation and value to the prevention of disease and prolongation of life.)*

### Smallpox.

Smallpox is now, fortunately, of such relatively rare occurrence that the aggregate mortality hardly admits of being dealt with statistically to much advantage. Yet it is not generally recognized that the United States suffers more from smallpox than many other large civilized countries, as perhaps best illustrated by the fact that in 1926 we had 377 deaths from smallpox against 18 deaths from the disease in England and Wales with about one half the population. In 1925, however, we had 709 deaths from smallpox while in England and Wales there were only 8. In the entire United States Army in the United States and Europe during the period of the war ending with December 31, 1919, there occurred 794 cases of smallpox with only 5 deaths, or a case fatality percentage of 0.63. The death rates from smallpox in the registration area since 1917 have fluctuated between a minimum of 0.1 in 1923 to a maximum of 0.9 per 100,000 in 1924. The table following gives the rates since 1917 in detail:

MORTALITY FROM SMALLPOX, UNITED STATES REGISTRATION AREA, 1917–26. RATES PER 100,000.

| Year. | Rate. | Year. | Rate. |
|---|---|---|---|
| 1917 | 0.3 | 1922 | 0.7 |
| 1918 | 0.4 | 1923 | 0.1 |
| 1919 | 0.4 | 1924 | 0.9 |
| 1920 | 0.6 | 1925 | 0.7 |
| 1921 | 0.7 | 1926 | 0.4 |

In 1924, during the year of maximum occurrence, the number of deaths from smallpox in the registration area was 874. A tabulation has been made of the cases and deaths from smallpox in the United States for 1916–1924, in a report issued by the American Association for Medical Progress, New York City. According to this tabula-

tion the total number of cases of smallpox during the eight years under review was 501,961 and the total number of deaths 4,115, or a case fatality rate of 8.2. Thus, while the deaths are less than 1,000, and sometimes considerably less, the disease continues as an ever-present menace to the public health and well-being of the American people.

For more than one hundred years methods of prophylaxis have been thoroughly understood. Regardless of an ever-continuous controversy, all qualified opinion is heartily in favor of vaccination. But the latter to be effective must be repeated from time to time, since the protective value of vaccination hardly extends over three or four years. The epidemic character of smallpox outbreaks cannot be guarded against by any other method than prompt and universal vaccination. Wherever vaccination is rigorously enforced, especially in the case of the new-born, the incidence of the disease is reduced to a minimum. Probably nowhere in the world is vaccination more general than in Australia and the Dominion of New Zealand. Thus, in the Commonwealth of Australia, during the five years ending with 1923, there were four deaths from smallpox. In the Dominion of New Zealand, during the six years ending with 1923, there was not a single death from the disease. Geographically, smallpox, as determined by the case rate, is least common in New England where the disease prevailed to a rate of 0.4 per 1,000 against 0.58 for the seven Southern States, 1.14 for the six Central States and 0.91 for the three Pacific Coast States. In all these areas the rates fluctuate widely from year to year, usually in direct proportion to the neglect of vaccination. The virulence of the disease likewise varies from time to time and it would be hazardous to give a true rate of case fatality other than the rate previously given for the United States Army during the war under ideal conditions. The controversy regarding the value of vaccination against smallpox may be dismissed with the official statement of the United States Public Health Service that, "If recent, the vaccination will protect against the disease entirely." But in connection with this, it may be said, also in official language, that "Prompt recognition and rigid isolation of the cases, as well as the tracing out of 'contacts,' should also be carried out to stop the spread unless the outbreak is very mild and in thinly-settled regions. Cases, and even fatalities, occur in every severe epidemic among persons who were vaccinated in good time, but with vaccine found, too late, to be of insufficient potency; such cases and fatalities also occur among persons thought to be protected by successful vaccination performed years previously." This merely re-emphasizes, as has been said before, that the protective value of vaccination is of limited

duration, while it is hardly necessary to add that only pure vaccine of sufficient potency should be used. In summarizing an illuminating discussion on vaccination, the Public Health Service points out that "Epidemics cannot be stopped by isolation without vaccination, nor prevented without required vaccination."

## Encephalitis Lethargica

This disease generally called "sleeping sickness" was first recognized in Austria and France about ten years ago. It appeared in England in the spring of 1918. The best summary account of its occurrence and spread throughout the world has been published in the Eighth Annual Report of the Scottish Board of Health for 1926.

The disease became known in America at about the same time, but manifested itself in extremely varied forms. According to the report referred to "It may be initially so mild that its essential nature is not at the time suspected; or so virulent that death may occur within a few days of the first sign of illness. Moreover, although the several forms of the malady tend to fall into a few main types, the actual manifestations or symptoms are extremely varied. No single symptom is pathonomic; but the 'classical' indications of the disease in its early and more acute stage are fever, lethargy and sudden spasmodic muscular contractions of the muscles of the limbs or throat or of the diaphragm, as well as disturbance of the action of the eye muscles." The name of encephalitis lethargica, or sleeping sickness, is considered inappropriate and instead it has been suggested that the malady should be referred to as epidemic encephalitis.

The mortality from the disease in the United States registration area since 1919 has been as follows. The corresponding rates per 100,000 of population are also given.

MORTALITY FROM ENCEPHALITIS LETHARGICA, UNITED STATES REGISTRATION AREA, 1919–1926. RATES PER 100,000.

| | Number. | Rate. | | Number. | Rate. |
|---|---|---|---|---|---|
| 1919 | 589 | 0.7 | 1923 | 1,988 | 2.0 |
| 1920 | 1,505 | 1.7 | 1924 | 1,472 | 1.5 |
| 1921 | 1,709 | 1.9 | 1925 | 1,630 | 1.6 |
| 1922 | 1,284 | 1.4 | 1926 | 1,499 | 1.4 |

No extended study has been made of the incidence of this disease by age and sex, or in urban and rural regions, but it is apparently more common in cities than in the country, although this is still open to further investigation. The disease sometimes occurs as a contributory cause, but as such it has apparently, during recent years, been diminishing. This, however, may be entirely the result of changes in classification.

Encephalitis lethargica is apparently more common in England and Wales than in this country. The English mortality experience since 1918 has been as follows. I also include in the table the rates per 100,000 of population.

MORTALITY FROM ENCEPHALITIS LETHARGICA, ENGLAND AND WALES, 1918–26. RATES PER 100,000.

| | Number. | Rate. | | Number. | Rate. |
|---|---|---|---|---|---|
| 1918 | 16 | — | 1923 | 531 | 1.4 |
| 1919 | 294 | 0.8 | 1924 | 1,407 | 3.6 |
| 1920 | 480 | 1.3 | 1925 | 1,372 | 3.5 |
| 1921 | 729 | 1.9 | 1926 | 1,325 | 3.4 |
| 1922 | 339 | 0.9 | | | |

In 1926 the male death rate was 3.5 and the female death rate was 3.3 per 100,000 of population. It is highly significant that there should have been almost as many deaths from this disease in England and Wales in 1926 with about one third the population of the United States. In other words, in 1926 there were 1,499 deaths in the United States against 1,325 in England and Wales.

The fatality rate is indicated by the returns for Scotland for 1920–25 covering 683 cases, of which 161, or 23.6 per cent, terminated fatally. Of the 522 survivors, it is said that it is probable that "At least one half have permanently suffered in body or in mind as a result of the attack." Only those who have experienced an attack of the disease can fully realize its distressing symptoms. It is one of the gravest of modern afflictions and in all probability an aftermath of the influenza epidemic of 1918–19. *(To be continued.)*

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## SUMMARY OF THE WORK, JULY, 1928.

### BUREAU OF ADMINISTRATION.

| | | | |
|---|---|---|---|
| Prosecutions ordered | 6 | Personnel: | |
| Legal notices | 168 | Leave of absence | 1 |
| Lying-in hospital approved | 1 | Appointments, temporary | 5 |
| Contract awarded | 2 | Appointment, permanent | 1 |

### LICENSES, PERMITS, ETC., ISSUED.

| | | | |
|---|---|---|---|
| Burial permits | 911 | Milk | 214 |
| Denatured alcohol | 53 | Ice cream | 4 |
| Dumps approved | 3 | Pedlers | 118 |
| Hen licenses | 12 | Garbage transportation | 2 |
| Beverages | 42 | Sausage manufacturing | 1 |
| Milk license revoked | 1 | Undertakers | 1 |
| Manicure-massage | 196 | | |

### MEDICAL DIVISION.

| | | | |
|---|---|---|---|
| Reported cases | 865 | Visits: | |
| Non-resident | 53 | By investigator | 291 |
| Visits: | | Cases brought to Boston for treatment | 53 |
| By medical inspectors | 580 | Deaths investigated | 26 |
| By veterinarian | 298 | | |

## MONTHLY REPORT OF VENEREAL DISEASE ACTIVITIES.
## JULY, 1928.

### SYPHILIS.

| | |
|---|---|
| Curent cases under investigations July 1, 1928 | 22 |
| New cases during July | 12 |
| Total | 34 |

#### Disposition of Cases.

| | |
|---|---|
| Under treatment | 5 |
| False address | — |
| Unable to locate | 5 |
| Moved out of town | 3 |
| Under investigation July 31 | 21 |
| Total | 34 |
| New cases reported by number | 53 |

### GONORRHEA.

| | |
|---|---|
| Cases under investigation July 1, 1928 | 61 |
| New cases during July | 48 |
| Total | 109 |

#### Disposition of Cases.

| | |
|---|---|
| Under treatment | 27 |
| False addresses | 18 |
| Unable to locate | 19 |
| Moved out of town | 2 |
| Under investigation July 31 | 43 |
| Total | 109 |
| New cases reported by number | 227 |

### SUMMARY.

| | |
|---|---|
| Current cases under investigation, July 1, 1928 | 83 |
| New cases during July | 60 |
| Total | 143 |

#### Disposition of Cases.

| | |
|---|---|
| Under treatment | 32 |
| False address | 18 |
| Unable to locate | 24 |
| Moved out of town | 5 |
| Under investigation July 31, 1928 | 64 |
| Total | 143 |
| Visits by investigator | 294 |

### COMPLAINTS AND SOURCES OF INFECTION.

| | |
|---|---|
| No evidence of disease | 2 |
| Unable to locate | 4 |
| False address. | 3 |
| Moved out of town | 2 |

# REPORT OF TUBERCULOSIS DIVISION, JULY, 1928.

In the month of July there were 100 clinic sessions held in the ten stations. Distribution of clinics was as follows:

| | |
|---|---|
| South End Health Unit | 17 |
| East Boston Health Unit | 14 |
| North End Health Unit | 12 |
| West End Health Unit | 12 |
| South Boston Health Unit | 8 |
| Boston Dispensary Clinic | 12 |
| Brighton Clinic | 10 |
| Charlestown Clinic | 9 |
| Codman Square Clinic | 9 |
| Hyde Park Clinic | 7 |
| Total | 110 |
| Total number of cases | 989 |

| Districts. | Total Number of Cases at Clinics. | | | Total Number of New Cases at Clinics. | | |
|---|---|---|---|---|---|---|
| | Adults. | Children. | Total. | Adults. | Children. | Total. |
| South End | 149 | 75 | 224 | 41 | 16 | 57 |
| East Boston | 57 | 86 | 143 | 8 | 19 | 27 |
| North End | 55 | 59 | 114 | 6 | 8 | 14 |
| West End | 31 | 27 | 58 | 6 | 11 | 17 |
| South Boston | 110 | 51 | 161 | 27 | 20 | 47 |
| Boston Dispensary | 29 | 11 | 40 | 10 | 2 | 12 |
| Brighton | 31 | 11 | 42 | 6 | 1 | 7 |
| Charlestown | 26 | 12 | 38 | 6 | 3 | 9 |
| Codman square | 85 | 33 | 118 | 12 | 5 | 17 |
| Hyde Park | 14 | 30 | 44 | 4 | 6 | 10 |
| Totals | 587 | 395 | 982 | 126 | 91 | 217 |

| Districts. | Von Pirquet. | Wassermann. | Lamp. | X-Ray. |
|---|---|---|---|---|
| South End | 30 | 32 | 161 | 129 |
| East Boston | 25 | 6 | 24 | 40 |
| North End | 5 | 8 | 18 | 53 |
| West End | 10 | 7 | 16 | — |
| South Boston | 25 | 14 | 4 | 50 |
| Boston Dispensary | 4 | 8 | — | — |
| Brighton | 5 | 4 | — | — |
| Charlestown | 5 | 4 | — | — |
| Codman square | 7 | 5 | — | — |
| Hyde Park | 7 | 2 | — | — |
| Totals | 123 | 90 | 223 | 272 |

## TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING JULY, 1928.

| Classification. | Number. | Percentage. |
|---|---|---|
| After death | 7 | 14.89 |
| Seven days or less | 3 | 6.38 |
| Eight to fourteen days, inclusive | 1 | 2.13 |
| Fifteen to twenty-one days, inclusive | — | — |
| Twenty-two to thirty-one days, inclusive | — | — |
| Within First Month. (Total) | 11 | 23.40 |
| Within second month | 8 | 17.02 |
| Within third month | 4 | 8.51 |
| Within fourth month | 2 | 4.25 |
| Within fifth month | — | — |
| Within sixth month | 1 | 2.13 |
| Within seventh month | 3 | 6.38 |
| Within eighth month | — | — |
| Within ninth month | 1 | 2.13 |
| Within tenth month | — | — |
| Within eleventh month | — | — |
| Within twelfth month | 1 | 2.13 |
| Within First Year Preceding Death. (Total) | 31 | 65.95 |
| Within second year | 5 | 10.64 |
| Within third year | 1 | 2.13 |
| More than three years | 10 | 21.28 |
| Grand totals | 47 | 100.00 |

# CHILD HYGIENE DIVISION.

## REPORT OF ACTIVITIES OF MEDICAL INSPECTORS, JULY, 1928.

| | |
|---|---|
| Inspections | 37 |
| Physical examinations | 925 |
| Toxin-antitoxin administrations | 29 |
| Vaccinations | 186 |
| Vaccination certificates issued | 101 |
| Antityphoid inoculations | 3 |
| Day nursery visits | 10 |
| Parochial school visits | 1 |
| Conferences | 7 |

# REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES FOR JULY, 1928.

| Station. | Toxin–Antitoxin. | | | | Number of Vaccinations. |
|---|---|---|---|---|---|
| | First. | Second. | Third. | Total. | |
| Old Town Hall, Brighton | 5 | 7 | 2 | 14 | 1 |
| 31 Lincoln street, Brighton | 1 | — | — | 1 | 16 |
| Charlestown Municipal Building | 6 | 6 | 2 | 14 | 64 |
| Codman Square Library | 5 | 6 | 6 | 17 | 68 |
| Columbia Road Municipal Building | — | — | — | — | 45 |
| 1 Arcadia street, Dorchester | 2 | 1 | — | 3 | 154 |
| East Boston Health Unit | — | — | — | — | — |
| Hyde Park Municipal Building | — | 3 | 4 | 7 | 31 |
| Curtis Hall, Jamaica Plain | 3 | — | 1 | 4 | 45 |
| 41 North Margin street | — | — | — | — | 7 |
| Roslindale Municipal Building | 3 | 3 | 3 | 9 | 60 |
| Beth Israel Hospital | — | — | — | — | 8 |
| Children's Hospital | 1 | 3 | 3 | 7 | 5 |
| 1049 Columbus avenue | — | 1 | 4 | 5 | 91 |
| Vine Street Municipal Building | — | — | 3 | 3 | 42 |
| 133 Dorchester street, South Boston | 1 | — | — | 1 | 15 |
| 122 Tyler street | — | — | 1 | 1 | 12 |
| Shawmut Avenue Municipal Building | 4 | 9 | 11 | 24 | 2 |
| 57 East Concord street | — | — | — | — | — |
| 17 Blossom street | — | — | — | — | — |
| Totals | 31 | 39 | 40 | 110 | 666 |

# MONTHLY REPORT OF CHILD HEALTH CONFERENCES JULY, 1928.

| Station. | Number of Babies. | Number of Preschool. | Total Attendance. | Number of New Babies. | Number of New Preschool. | Total New Cases. | Number of Conferences. | Average Attendance. |
|---|---|---|---|---|---|---|---|---|
| Old Town Hall, Brighton | 171 | 13 | 184 | 36 | 4 | 40 | 3 | 61 |
| 31 Lincoln street, Brighton | 78 | 20 | 98 | 15 | 4 | 19 | 4 | 25 |
| Charlestown Municipal Building | 273 | 24 | 297 | 44 | 3 | 47 | 8 | 37 |
| Codman Square Library | 430 | 66 | 496 | 89 | 11 | 100 | 8 | 62 |
| Columbia Road Municipal Building | 411 | 11 | 422 | 54 | 1 | 55 | 8 | 53 |
| 1 Arcadia street, Dorchester | 327 | 17 | 344 | 44 | 2 | 46 | 9 | 38 |
| East Boston Health Unit | 404 | 19 | 423 | 92 | — | 92 | 9 | 47 |
| Hyde Park Municipal Building | 203 | 31 | 234 | 39 | 2 | 41 | 5 | 47 |
| Curtis Hall, Jamaica Plain | 161 | 4 | 165 | 32 | 2 | 34 | 3 | 55 |
| 41 North Margin street | 249 | 50 | 299 | 32 | 2 | 34 | 9 | 33 |
| Roslindale Municipal Building | 289 | 62 | 351 | 29 | 2 | 31 | 5 | 70 |
| Beth Israel Hospital | 127 | 17 | 144 | 23 | 3 | 26 | 4 | 36 |
| Children's Hospital | 173 | 14 | 187 | 27 | — | 27 | 5 | 37 |
| 1049 Columbus avenue | 362 | 30 | 392 | 51 | 4 | 55 | 9 | 46 |
| Vine Street Municipal Building | 322 | 16 | 338 | 69 | 4 | 73 | 9 | 38 |
| 133 Dorchester street, South Boston | 392 | 40 | 432 | 82 | 9 | 91 | 9 | 48 |
| 122 Tyler street | 150 | 19 | 169 | 13 | — | 13 | 5 | 34 |
| Shawmut Avenue Municipal Building | 137 | 13 | 150 | 21 | — | 21 | 3 | 50 |
| 57 East Concord street | 139 | 9 | 148 | 25 | — | 25 | 4 | 37 |
| 17 Blossom street | 322 | 54 | 376 | 37 | 1 | 38 | 8 | 47 |
| Totals | 5,120 | 529 | 5,649 | 854 | 54 | 908 | 127 | 45 |

## HEALTH UNIT ACTIVITIES.

| | |
|---|---|
| MISCELLANEOUS UNIT ACTIVITIES: | |
| Complaint of insanitary conditions | 53 |
| Number of persons given health and other information | 1,977 |
| City visitors | 37 |
| Out of city visitors | 10 |
| DENTAL SERVICE: | |
| Number of children's teeth cleaned | 488 |
| Number of children treated | 636 |
| Prophylaxis | 75 |
| EYE SERVICE: | |
| New cases | 16 |
| Number of refractions | 39 |
| Number of glasses prescribed | 10 |
| Number of examinations for diagnosis | 36 |
| CHILD HYGIENE DIVISION: | |
| Number of child health conferences | 39 |
| Total attendance at conferences | 1,675 |
| New babies at conferences | 268 |
| New preschool age children at conferences | 12 |
| Vaccinations performed | 148 |
| Vaccination certificates issued | 170 |
| Number of posture clinics | 17 |
| Total attendance at posture clinics | 82 |
| Toxin-antitoxin administrations | 25 |
| Examined for day nurseries | 779 |
| TUBERCULOSIS CLINICS: | |
| Number of clinics | 63 |
| Attendance at tuberculosis clinics | 700 |
| New cases | 162 |
| X-ray examinations | 272 |
| NURSING SERVICE: | |
| Homes visited by nurses | 5,033 |
| Total visits to babies and preschool children | 3,281 |
| Total communicable disease visits | 677 |
| Total tuberculosis visits | 1,517 |
| Infant death investigations | 25 |
| Special visits | 14 |
| Alpine lamp treatments | 214 |
| BOSTON LYING-IN HOSPITAL: | |
| Pre-natal Clinic: | |
| Number of clinics | 23 |
| Attendance | 323 |
| New cases | 71 |
| COMMUNITY HEALTH ASSOCIATION: | |
| General Division: | |
| Home visits by nurses | 9,253 |

| | |
|---|---|
| Boston Dispensary: | |
| Calls by district physician | 76 |
| State Department of Mental Diseases: | |
| Number of clinics | 7 |
| Attendance at clinics | 21 |
| Visits of workers | 5 |
| New cases | 125 |
| Infantile Clinic of Children's Hospital: | |
| Number of clinics | 8 |
| Attendance | 60 |
| New cases | 0 |
| West End Neighborhood Conference: | |
| Number of children taken into playground by workers | 2,514 |

## NURSING SERVICE.

| | | |
|---|---|---|
| Homes Visited | | 11,938 |
| Child Hygiene: | | |
| Visits to new cases | 1,329 | |
| Visits to old cases | 7,269 | |
| Total | | *8,598 |
| Communicable Diseases: | | |
| Visits to new cases | 408 | |
| Visits to old cases | 1,605 | |
| Total | | †2,013 |
| Tuberculosis: | | |
| Visits to new cases | 212 | |
| Visits to old cases | 3,123 | |
| Total | | ‡3,335 |
| Miscellaneous Visits: | | |
| Infant death investigations | 74 | |
| Maternal death investigations | 9 | |
| Patients accompanied to hospital | 1 | |
| Visits to day nurseries | 1 | |
| Visits to parochial schools | – | |
| Posture clinics | 17 | |
| Other special visits | 13 | |
| Total | | 115 |
| Total number of visits | | 13,946 |

* Includes 121 wrong addresses; 885 not seen; 1,006 absent visits.

† Includes 8 wrong addresses; 67 not seen; 75 absent visits; 193 ophthalmia visits.

‡ Includes 58 wrong addresses; 298 not seen; 356 absent visits; 1,494 positive cases visited; 917 contact cases visited; 568 suspect cases visited.

| | Hrs. | Min. |
|---|---|---|
| Hours in station by nurses | 1,998 | 35 |
| Hours in baby conferences | 1,464 | 00 |
| Hours in tuberculosis clinics | 699 | 25 |
| Hours in posture classes | 9 | 30 |
| Total number of hours | 4,717 | 30 |

## BACTERIOLOGICAL LABORATORY.

| | |
|---|---|
| Diphtheria | 431 |
| Tuberculosis | 386 |
| Typhoid | 51 |
| Gonorrhea | 731 |
| Gonorrheal ophthalmia | 88 |
| Syphilis | 1,117 |
| Other examinations * | 236 |
| Bacteriological examination of milk | 558 |
| Bacteriological examinations of water from beaches | 39 |
| Bacteriological examinations of water from swimming pools | 51 |

* Malaria, 3; smears for virulence, 4; genito-urinary tuberculosis, 4; paratyphoids, 2; tests for virulence, 2; genito-urinary tuberculosis, 26; paratyphoid, 4; dark field, 2; Vincent's angina, 6; cream pie, bread, ham, beef, peas, corned beef, malted milk, glucose and smear for organisms, 12; roast beef for T. B., 1; urines, 173.

## FOOD INSPECTION ACTIVITIES.

### BUREAU OF MILK INSPECTION.

#### SAMPLES EXAMINED.

CHEMICAL:

| | |
|---|---|
| Milk from wagons | 216 |
| Milk from stores | 1,016 |
| Milk brought by citizens | — |
| Vinegar | 15 |
| Samples referred to Bacteriological Laboratory for examination | 558 |
| Food samples | 6 |
| Water and sewage | 4 |
| Ice cream | 17 |
| Miscellaneous examinations | 3 |

## SURVEY OF THE QUALITY OF MILK SOLD BY BOSTON WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during July, 1928. Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat; for bacteria, it is required that it contain per cubic centimeter not more than 100,000 in pasteurized milk and in raw milk; and not more than 10,000 in certified milk.

### Key to Kind of Milk.

P means pasteurized milk.

C means raw certified milk, the only kind sold by this dealer.

R means raw milk from accredited herds of tuberculin tested cows, the only kind sold by this dealer.

| Name of Dealer. | Kind of Milk. | Solids. | Fat. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| | | Per Cent. | Per Cent. | |
| Allen, Fred | P | 12.23 | 3.60 | 7 |
| Antetomasso, Peter | P | 12.88 | 4.38 | 24 |
| Barron, C. W | C | 13.17 | 4.32 | 42 |
| Bergmann, J. H | P | 12.60 | 4.00 | 18 |
| Bolio, William | R | 12.01 | 3.63 | 19 |
| Brandley, F. J. & P. J | R | 12.06 | 3.65 | 24 |
| Casey, James | P | 12.44 | 3.90 | 57 |
| Cashin, James F., & Co | P | 12.28 | 3.90 | 15 |
| Cedar Hill Farm, Inc | C | 13.00 | 4.50 | 17 |
| Chapin, George L | P | 12.41 | 4.00 | 19 |
| Clark, Levi | P | 11.86 | 3.60 | 34 |
| Corkery, John J | P | 12.30 | 3.88 | 70 |
| Cosgrove, Martin S | P | 12.62 | 3.95 | 40 |
| Cummings, Francis S., Company | P | 12.22 | 3.81 | 16 |
| Daley, John | P | 12.00 | 3.50 | 7 |
| Dean, Louis W | P | 12.91 | 4.25 | 66 |
| Denehy, Timothy | P | 12.02 | 3.35 | 34 |
| Deerfoot Farms Company | P | 12.84 | 4.10 | 13 |
| Driscoll, William B., Company | P | 12.22 | 3.73 | 22 |
| Elm Spring Farm Company | P | 12.10 | 3.60 | 48 |
| Edgerly, Frank S | P | 12.44 | 4.10 | 23 |
| Ferguson, Malcolm D | P | 12.43 | 3.76 | 408 |
| Garfield, Mason | R | 14.87 | 5.78 | 15 |
| Garvin, Charles | P | 13.95 | 4.88 | 21 |

| Name of Dealer. | Kind of Milk. | Solids. | Fat. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| | | Per Cent. | Per Cent. | |
| Giroux, J. E. & H. J. | P | 12.19 | 3.70 | 29 |
| Griffin, Joseph L. | P | 12.58 | 4.00 | 19 |
| Gushee, Chester W. | P | 12.49 | 3.90 | 43 |
| Herlihy Brothers, Inc. | P | 12.10 | 3.67 | 32 |
| Hickey James B. | P | 12.05 | 3.68 | 18 |
| Holden, John E. | P | 12.42 | 4.00 | 80 |
| Hood, H. P., & Sons, Inc. | P | 12.30 | 3.90 | 25 |
| Hutchinson, Frank T. | P | 12.00 | 3.70 | 18 |
| Jones, William T., Company | P | 12.59 | 3.98 | 80 |
| Kendall Brothers | P | 12.19 | 3.73 | 73 |
| Kingston, Samuel | P | 12.55 | 3.78 | 36 |
| Knapp, George J. | P | 12.43 | 3.93 | 167 |
| Lang Brothers | P | 12.20 | 3.98 | 33 |
| Larsson, Charles | P | 12.24 | 3.80 | 14 |
| LeBaron, Frederick | R | 13.28 | 4.49 | 2,250 |
| Ludwig, Brothers | P | 12.74 | 3.99 | 364 |
| Lyndonville Creamery Association | P | 12.71 | 4.15 | 32 |
| Manning, Peter | P | 11.99 | 3.40 | 24 |
| McAdams, J. F., & Brothers, Inc. | P | 12.60 | 4.07 | 19 |
| McKernan, James | P | 12.13 | 3.75 | 46 |
| Munchbach, George | P | 12.46 | 3.90 | 30 |
| New England Creamery Products Company | P | 12.70 | 4.08 | 16 |
| Pine Grove Dairy, Inc. | P | 12.18 | 3.60 | 62 |
| Robinson, A. J. | P | 13.54 | 4.90 | 60 |
| Schuster, Adam | P | 12.18 | 3.80 | 32 |
| Seven Oaks Dairy Company | P | 12.23 | 3.80 | 27 |
| Shick, Jacob | P | 12.44 | 3.87 | 32 |
| Somerset Farms Creamery Company | P | 12.84 | 4.15 | 56 |
| Sterling Farms Milk Company | P | 12.17 | 3.68 | 21 |
| Stone, H. L. | P | 12.06 | 3.73 | 60 |
| Stuart, W. E., Company | P | 12.48 | 3.95 | 18 |
| Turner Center System | P | 12.41 | 3.88 | 14 |
| United Farmers Co-operative Creamery Company | P | 12.60 | 4.08 | 9 |
| Vartanian, K. | P | 12.42 | 4.20 | 18 |
| Vartanian, S. | P | 12.16 | 3.90 | 14 |
| Walker-Gordon | C | 12.55 | 3.93 | 6 |
| Weiler, E., & Sons | P | 12.77 | 4.19 | 19 |
| Westwood Farm Milk Company | P | 12.21 | 3.77 | 21 |
| White Brothers | P | 12.56 | 3.90 | 20 |

| Name of Dealer. | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| Whiting Milk Companies | P | 12.33 | 3.88 | 23 |
| Whittemore, W. D. | P | 12.44 | 3.80 | 29 |
| Williams, Edward C. | P | 12.63 | 4.28 | 25 |
| Wiswall, Granville A. | P | 12.26 | 3.75 | 44 |
| Woodland, Charles L. | P | 12.31 | 3.78 | 22 |

## CHAIN STORE MILK.

| Name of Dealer. | Supplied by | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria, Thousands In One Cubic Centimeter. |
|---|---|---|---|---|---|
| The Great Atlantic & Pacific Tea Company. | Hood, H. P., & Sons, Inc. | P | 12.31 | 3.90 | 26 |
| Brown, M., & Sons | Whiting Milk Companies, | P | 12.29 | 3.90 | 16 |
| Cloverdale, The, Company. | Turner Center System | P | 12.05 | 3.78 | 32 |
| Economy Grocery Stores Company. | Whiting Milk Companies, | P | 12.36 | 3.90 | 17 |
| First National Stores, Inc., | Bellows Falls Co-operative Creamery. | P | 12.90 | 4.15 | 27 |
| Morgan Brothers Company. | New England Creamery Products Company. | P | 12.65 | 4.13 | 130 |
| Winer, M., Company | M. Winer Company | P | 12.41 | 4.00 | 41 |

## DAIRY DIVISION.

| | | | |
|---|---|---|---|
| Total services | 1,392 | Total cattle inspected | 14,482 |
| Dairies inspected | 944 | Inspections of milk plants and licensed dealers | 186 |
| Scoring above 50* | 678 | Bacteriological examinations | 183 |
| Scoring below | 266 | Country creamery inspections | 11 |
| With milk rooms | 717 | Sediment tests | 47 |
| Without milk rooms | 227 | | |
| Inactive | 17 | | |

* Passable mark.

## MARKET, STORE AND RESTAURANT SERVICE.

| | |
|---|---|
| Reinspections | 289 |
| Stores inspected | 2,621 |
| Sanitary defects remedied | 116 |
| Complaints at office | 64 |
| Referred to Sanitary Division | 13 |
| Milk applicants | 43 |
| Notices to abate nuisances | 46 |
| Court cases | 5 |
| Applications for pedlers' licenses approved | 623 |
| Pedlers' numbers assigned | 149 |

| | |
|---|---|
| Laboratory Examinations: | |
| Bacteriological | 6 |
| Chemical | 8 |
| Market Inspections: | |
| Vehicles | 2,382 |
| Stands | 759 |

### CONDEMNATIONS.

| | | | |
|---|---|---|---|
| Meat: | | Groceries: | |
| Beef | 48,080 pounds | Butter | 41 pounds |
| Cured meat | 7 pounds | Candy | 51 cases |
| Frankfurts | 214 pounds | Candy | 31 cartons |
| Head | 1 | Coffee | 708 pounds |
| Lamb | 122 pounds | Cones | 90 packages |
| Liver | 38 pounds | Crackers | 232 packages |
| Hearts | 2 | Crackers | 12 cartons |
| Tongues | 10 | Eggs | 13 dozen |
| Veal | 2,842 pounds | Flour | 309 pounds |
| Miscellaneous meat | 9½ pounds | Glue | 1 barrel |
| Plucks | 71 | Gum | 11 cases |
| Poultry | 319½ pounds | Cocoa | 200 pounds |
| Pork | 571 pounds | Icy Pi | 11 packs |
| Sausage | 3 pounds | Nuts | 225 pounds |
| Squabs | 36 | Powdered milk | 2 barrels |
| Sweetbreads | 103 | Rice | 15 pounds |
| Fish: | | Salt peanuts | 1 case |
| Clams | 36 cans | Sugar | 17 pounds |
| Mackerel | 5 cases | | |
| Sardines | 165 cases | | |
| Salt fish | 131 cases | | |
| Salt fish | 1 barrel | | |
| Fruit: | | Vegetables: | |
| Blackberries | 36 boxes | Tomatoes | 1,195 pounds |
| Cantelopes | 19 | Tomatoes | 540 crates |
| Cherries | 80 pounds | Corn | 9 bushels |
| Dates | 10 pounds | Beans | 7 bushels |
| Oranges | 1 box | Egg plants | 65 |
| Peaches | 30 dozen | Peas | 250 pounds |
| Raspberries | 474 boxes | Potatoes | 69,300 pounds |
| Raspberries | 85 quarts | | |
| Strawberries | 15 quarts | | |

## LIVE STOCK INSPECTION (Brighton Abattoir).

| | | | |
|---|---|---|---|
| Cattle inspected | 2,952 | Parts condemned (lbs.) | 13,476 |
| Calves inspected | 3,174 | Animals condemned | 37 |
| Swine inspected | 3,162 | | |

## SANITARY INSPECTION.

| | | | |
|---|---|---|---|
| Original inspections | 1,962 | Complaints investigated | 824 |
| Reinspections | 5,518 | Court cases authorized | 1 |
| Legal notices served | 157 | Nuisances abated | 1,502 |

# VITAL STATISTICS, JULY, 1928.

## BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING JULY, 1928, WITH COMPARATIVE FIGURES FOR JULY, 1927.

| | BIRTHS AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **All Causes:** | | | | | | |
| Total deaths | 765 | 771 | —6 | 11.49 | 11.67 | —.18 |
| Nonresidents deducted | 605 | 608 | —3 | 9.08 | 9.20 | —.12 |
| **By Age:** | | | | | | |
| Under one year | 116 | 97 | +19 | 1.74 | 1.47 | +.27 |
| One year to four years, inclusive | 34 | 32 | +2 | .51 | .48 | +.03 |
| Sixty years and over | 315 | 265 | +50 | 4.73 | 4.01 | +.72 |
| **By Special Causes:** | | | | | | |
| Degenerative Diseases, So Called: | | | | | | |
| Apoplexy | 41 | 28 | +13 | .61 | .42 | +.19 |
| Arteriosclerosis | 15 | 11 | +4 | .22 | .17 | +.05 |
| Heart disease | 158 | 154 | +4 | 2.37 | 2.33 | +.04 |
| Nephritis, chronic | 35 | 37 | —2 | .52 | .56 | —.04 |
| Infant and Maternal Mortality: | | | | | | |
| *a.* Total registered live births | 1,311 | 1,430 | —119 | 19.68 | 21.64 | —1.96 |
| *b.* Registered stillbirths | 42 | 34 | +8 | .63 | .51 | +.12 |
| Stillbirths per 1,000 births and stillbirths | — | — | — | 31.04 | 23.22 | +7.82 |
| *c.* Deaths of mothers from causes incident to childbirth | 9 | 5 | +4 | .13 | .07 | +.06 |
| Deaths of mothers per 1,000 births and stillbirths | — | — | — | 6.65 | 3.41 | +3.24 |
| Deaths of children in first year of life | 116 | 97 | +19 | 1.74 | 1.47 | +.27 |
| Deaths in first year per 1,000 live births, | — | — | — | 88.48 | 67.83 | +20.65 |
| **Violence:** | | | | | | |
| Accidents | 46 | 51 | —5 | .69 | .77 | —.08 |
| Homicides | 1 | 7 | —6 | .015 | .10 | —.085 |
| Suicides | 8 | 7 | +1 | .12 | .10 | +.02 |
| **Miscellaneous:** | | | | | | |
| Alcoholism, acute or chronic | 4 | 10 | —6 | .06 | .15 | —.09 |
| Broncho-pneumonia | 35 | 28 | +7 | .52 | .42 | +.10 |
| Cancer | 110 | 97 | +13 | 1.65 | 1.47 | +.18 |
| Cirrhosis of the liver | 2 | 6 | —4 | .03 | .09 | —.06 |
| Diabetes mellitus | 6 | 15 | —9 | .09 | .23 | —.14 |
| Diarrheal diseases, children under two years of age | 28 | 24 | +4 | .42 | .36 | +.06 |

## BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON, JULY, 1928.

| | CASES AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **Communicable Diseases:** | | | | | | |
| Anterior poliomyelitis.....Cases.. | 9 | 9 | — | .13 | .14 | —.01 |
| Deaths. | — | 4 | —4 | — | .06 | —.06 |
| Cerebrospinal meningitis.....Cases.. | 5 | 3 | +2 | .07 | .04 | +.03 |
| Deaths. | 2 | 3 | —1 | .03 | .04 | —.01 |
| Diphtheria.....Cases.. | 44 | 106 | —62 | .66 | 1.60 | —.94 |
| Deaths. | 4 | 7 | —3 | .06 | .10 | —.04 |
| Influenza.....Cases.. | 14 | 12 | +2 | .21 | .18 | +.03 |
| Deaths. | 7 | 2 | +5 | .10 | .03 | +.07 |
| Measles.....Cases.. | 94 | 357 | —263 | 1.41 | 5.40 | —3.99 |
| Deaths. | — | 2 | —2 | — | .03 | —.03 |
| Pneumonia (lobar).....Cases.. | 62 | 57 | +5 | .93 | .86 | +.07 |
| Deaths. | 12 | 19 | —7 | .18 | .29 | —.11 |
| Scarlet fever.....Cases.. | 84 | 147 | —63 | 1.26 | 2.22 | —.96 |
| Deaths. | 1 | 1 | — | .015 | .015 | — |
| Tuberculosis (pulmonary).....Cases.. | 148 | 135 | +13 | 2.22 | 2.04 | +.18 |
| Deaths. | 39 | 57 | —18 | .58 | .86 | —.28 |
| Tuberculosis (other forms).....Cases.. | 27 | 28 | —1 | .40 | .42 | —.02 |
| Deaths. | 5 | 2 | +3 | .07 | .03 | +.04 |
| Typhoid fever.....Cases.. | 7 | 7 | — | .10 | .10 | — |
| Deaths. | 1 | — | +1 | .015 | — | +.015 |
| Whooping cough.....Cases.. | 90 | 99 | —9 | 1.35 | 1.50 | —.15 |
| Deaths. | 3 | 2 | +1 | .04 | .03 | +.01 |

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1928 (mid-year), based upon the federal census of 1920, has been used.

**DO NOT DESTROY.**

When you have no further use for this Circular give it to someone else.

1/23 1884

MONTHLY BULLETIN

# HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the EDITOR MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

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## DEGENERATES.

A plant may take on a peculiarity with respect to its structure or its product which makes it more desirable for the purposes for which that kind of plant is customarily grown. By a process of artificial selection such peculiarities of individual plants may be propagated and further developed so as to obtain a variety of the plant of much greater usefulness. It is possible that an accidental combination of the necessary factors may bring about the same result. Most of us believe that species and families, as well as varieties of plants, may have come about in this way in the course of time.

On the other hand plants may change or be changed so as to exhibit deviations from their usual growth of an undesirable character.

Whether manifested in structural deformities, premature or retarded development, stunted or excessive growth, such departure from the usual or normal may be expected to be accompanied by evidence of weakness in some respect or other and by the production of imperfect fruit.

The factors of fundamental importance in the production of

satisfactory pla[illegible]od and environment. The former comprises the cons[illegible] the soil and the combinations in which they exist.

The soil n[illegible]nly furnish assimilable food but be free from properties or constituents that may have a toxic or directly poisonous effect on the particular plant concerned.

A favorable environment is supplied by the physical character of the soil, the relative amount of heat, moisture and sunshine, and by certain atmospheric conditions, including the absence therefrom of noxious gases.

Fortuitous mechanical injuries may affect the growth of a plant adversely and within this category is to be included possible effects of strong winds.

While appreciating the conditions just enumerated, the amateur gardener will probably be unduly impressed with dangers to plant life from insects and other parasites until he observes that soil and weather conditions favorable to vigor in plants tend to lessen dangers of this character.

When his poisonous sprays seem to have demonstrated their effectiveness in protecting his plants against parasites, other troubles appear, and finally the gardener may be told that the failure of his petted annuals to thrive is because "the seed is played out." In other words, he has been trying to grow normal plants from stock which for some reasons has developed serious weaknesses. Seeds, bulbs and cuttings from another soil and environment will be found to produce plants of the desired qualities and vigor.

Plant life possesses a margin of adaptability to unfavorable conditions. It is true of all living things that hostile influences stimulate the development of a means of defense directed not only to individual protection but to the perpetuation of the species. The contest, if not too severe, will add to the vigor and practical value of the species. Life may, however, be maintained with the loss of desirable qualities. If it were possible that the wheat plant could be led to adapt itself to the soil and environment of the cactus we would expect it to lose the desirable properties of wheat and when replanted in its former soil and environment to be a useless and troublesome weed.

Destructive influences may act as a stimulus to premature development. An injured branch may burst forth prematurely with leaves and flowers and produce imperfect fruit before it dies.

The same natural laws or principles, or whatever they may be called, which determine the growth and development of plants in the ways just referred to, likewise dictate the characteristics and potentialities of animals and men.

The important part which heredity may play in this matter is brought out by Davenport,* who shows that the descendants of Richard Edwards and Elizabeth Tuttle who have achieved distinction as statesmen, soldiers and educators, are counted in hundreds, while those who can trace their ancestry to the same man and a second wife, have no unusual accomplishments to their credit. Davenport also refers to the Juke family. The immoral or criminalistic tendencies of the progeny of one Max Juke are actually figured to have cost the state of New York a million and a quarter dollars in seventy-five years.

In the present state of our knowledge, it is often impossible to trace the faulty development of a plant to its cause. In the higher animals the complex organization of their specialized tissues and organs makes the relation of functional derangements and physical shortcomings still more obscure.

Nor, when something goes wrong in the physical development of man can we surely predict its consequences. Developmental imperfections of a physical character affect the manifestations of even that spiritual endowment which distinguishes man from the beast.

About half of the present infant mortality of Boston occurs within a month of birth. Most of these deaths, and many occurring during subsequent months, are due to a physical defectiveness which makes life impossible. Evidence of faulty structural development is often recognizable, but only in exceptional cases can such visible structural defects be regarded as a sufficient reason for death. Congenital inability to live is more often due to some accompanying internal deficiency or functional derangement, so obscure or so intangible that the attending physician records the terminal gastroenteritis or broncho-pneumonia as the statistical cause of death.

A child's six-year molar begins to decay. The immediate cause is infective bacteria, but there was a vulnerability to infection which may be traced to a structural malformation of the rudimentary tooth as it existed at birth. Modern dentistry may prevent the decay of a six-year molar from being a serious matter, but a malformed rudimentary tooth, like other structural defects recognizable in infancy or early childhood, points to the probability of other and invisible developmental defects as well.

The man or woman who evades a death certificate of gastroenteritis in infancy may be handicapped through life by inability to digest an article of food of potentially high nutritional value.

Even epilepsy may sometimes be controlled by attention to

*"Heredity in Relation to Eugenics," by Charles Benedict Davenport.

intestinal digestion. In some phases of dementia præcox the clinical symptoms of toxemia are as unmistakable as in typhoid fever.

Whether structural or apparently functional, developmental defects in man, like faulty growth in plants, find their fundamental cause in unsuitable food or an unfavorable environment, or possibly in the lack of some vital quality which may be appropriately described as the "the seed being played out."

As with plants, development is affected by favorable or unfavorable influences during man's period of growth. Under the stimulus of an overdose of tubercle bacilli the child may exhibit an unnatural mental activity and intelligence. Precocity is a sign of inferiority — of an inferior type. It is also a symptom of the effects of some poisons. "Superior intelligence" fizzles out when its abnormal stimulation loses its effect.

Hereditary tendencies, structural malformations, or functional weakness acquire a special importance in man since they indicate his capabilities.

Some persons exhibit an intolerance for sugar which eventually manifests itself as a frank case of diabetes. For reasons which are likewise not understood persons may vary greatly in their tolerance of alcohol. A consumption of liquor of the same kind and in the same way which in one man produces definite evidence of chronic alcoholic poisoning may leave no discoverable effects in another man or in his progeny. If, however, a man continues to use either sugar or alcohol after he knows that he is doing himself serious harm no further evidence is needed that he has a defective nervous organization with character defects as well. Drug addicts continue to be drug addicts because they do not want to be "cured."

Conduct under moral stress is the best test of character. Character as well as health and mental capabilities may also be appraised with a reasonable degree of accuracy by watching the functioning of man's most highly specialized organs, his nervous system,— by his muscular co-ordination, by his posture, by the precision of his voluntary muscular movements, by his gait, his voice, or perhaps by the manner in which he enters a room.

As far back in antiquity as literature goes we likewise find a recognition of the possibility of judging a man's mentality and character from the visible external evidence of his physical structure.

The outline of the foliage of a healthy tree presents a regular curve, and everywhere in nature we may see a symmetry of growth which we appreciate as beauty. The tendency to look upon a similar symmetry of development in man as normal, and to regard the possessor of structural peculiarities with disfavor or suspicion, is instinctive.

Cesare Lombroso, whose writings began to attract international attention about forty years ago, was responsible for some new ideas on this subject. He made the relation of visible evidence of developmental defects to mental and moral shortcomings the subject of a more systematic study than had ever been given it. His life work cannot be summarized in a few sentences, but the following may fairly indicate a part of his teaching:

The way men act and think is influenced, if not determined, by their physical structure. Abnormalities in conduct, including criminality, are the reflection of physical abnormalities. Such abnormalities will be found to be in the nature of arrested development or a reversion to an inferior or more primitive type, a degeneration. Conversely, where such *stygmata of degeneration* are seen abnormal mental and moral traits may be expected.

Practices of certain savage tribes in mutilating or disfiguring the face, or in painting or tattooing, is indicative of retrogression or degeneration from a higher type. Similar practices among civilized people is likewise an expression of degeneration.

Lombroso has passed out of vogue. His teachings could hardly be expected to be popular. Physical abnormalities are too common.

They were so conspicious in one meeting of persons interested in the promotion of public health as to lead an outsider, after inspecting its personnel, to quote the retort of the Swiss mercenary to the reproach of the French officer, "One fights for that of which he has the greatest need."

Another reason why Lombroso is not likely to be popular today will be apparent by reading his teachings and then picking from our Sunday supplements photographs of fashionably dressed women and comparing them with the normal female figure as it has been portrayed in art, robed and unrobed, since the dawn of civilization. The following may suggest what may be brought out by such a comparison:

High heels do more than to derange the normal gait. High heels give an apparent increase in height to a short woman, but they disturb the relative proportions of a normal woman with respect to the different segments of the limbs and of the limbs to the trunk. High heels disturb the natural bodily equilibrium, and unless the tendency be counteracted by the maintenance of unusually strong muscles, compensatory curves of the spinal column with loosening of ligaments develop, producing the posture characteristic of a defective nervous organization — the caved-in neck, cramped chest, and protuberant abdomen. The resulting disturbance of the circulation in the chest, abdomen and pelvis tends to affect nutrition

sufficiently to bring about a muscular weakness which will exaggerate this posture, but the effect is often hastened by dieting.

Lombroso would claim evidence of degeneration also in those who dictate women's fashions because of their efforts to obliterate in woman any suggestion of intellectual attractiveness. Woman's hair, which among all civilized people has been made to serve the purpose of drawing attention to a woman's head, countenance and intellectual faculties, is cut so as to permit neither its ornamental arrangement nor the disclosure of a symmetrically developed skull. In order further to divert attention to other parts of the body, a peculiar hat obstructs a view of the face and paint serves to blot out its semblance to a normal human countenance.

We hear less today than formerly from psychiatrists of the relation of mental and moral abnormalities and a physical cause. The matter is not entirely disregarded. Attention to the teeth of patients in an insane hospital has given remarkable results. In one institution, out of 180 female patients selected for gynecological operations, 40 per cent were afterwards discharged to their families. We hear more, however, about intelligence tests and complexes. The tendency is rather to differentiate the manifestations of functional derangement and classify and study them for the purposes of treatment.

Lombroso's perspective on mankind was perhaps warped by too close association with the relatively small fraction of human beings who call for institutional care. The same has also been said of some of our modern teachers. We hear from their critics that such matters as the following are not properly appreciated.

The value of an estimate of a person's mental capacity or proclivities depends entirely upon the breadth of experience of the one who makes it. Intelligence tests cannot be applied mechanically. Personal experience and training so enters into a person's mental makeup as he passes early childhood, that estimates of mental ages above eight or nine years are unworthy of serious consideration. The acquisition of useless information is no indication of mental capabilities. Pride in memorizing is indicative of a primitive mentality. A superior mental type of man gets satisfaction in meeting new situations and overcoming obstacles without memorized rules or conscious precedents to guide him. Nor is mental capacity indicated by the exhibition of a kind of racial cunning of the same sort a rat uses to avoid a trap. The search for a physical cause of apparent stupidity should be wider. Posture and habit clinics serve merely to obscure the symptoms of congenital defectiveness or of active disease. The occurrence of mistakes in the diagnosis of insanity are not unusual. It has happened that three eminent

psychiatrists have pronounced a nerve-shaken person insane because his recital of a recent harrowing experience seemed too incredible in the light of the experience of his examiners to be considered otherwise than as evidence of delusions.

The selection of psychiatry as a vocation does not make a man omniscient, but it is not open to dispute that available knowledge of mental and psychic abnormalities in man has greatly improved since Lombroso's day, and this knowledge has been largely of a helpful and hopeful sort. We know now that most feeble-minded persons are inoffensive, docile and useful. We have learned that feeble-mindedness is not inconsistent with the acquisition of considerable property, nor an obstacle to political success. While Lombroso was pointing out the physical peculiarities of the mentally deficient, Fernald was demonstrating how even potentially troublesome specimens of this class might be trained to contribute to the economic wealth of a community.

Insanity is now a mental disease, to a great extent both preventable and curable.

There are those who hold that much of our philanthropic work serves to propagate the unfit. Probably this is not so to the extent which they believe. The operation of natural law is not prevented in the long run. Whether such philanthropic efforts indirectly interfere with the propagation of the better type, the writer will leave it to others to say. But the unfortunate truth is that tinkering with defectives does not permanently benefit the species, whether of plants, animals or men.

Normal beings are born normal, and the production of normal human beings is determined by exactly the same principles and laws that determine the production of normal vigorous plants.

With men, as with plants, food and environment are of fundamental importance. We have still much to learn about the best foods for human beings, but it is noteworthy that the most striking results of efforts to promote public health have had to do with the protection of man's food and drink. Knowledge of proper food is useless without resources to provide it. If economic conditions assure a plentiful food supply for a people, variety and vitamins tend to take care of themselves.

We have also much to learn about the environment most favorable for production and growth of human beings of good physical, mental and moral stamina. Hardy plants are not developed by coddling. As with plants, human vigor is promoted by contest with something. There is really some basis for a remark of a much traveled mariner who observed that he had found the most beautiful places on earth inhabited by most miserable people.

## PREVENT RESPIRATORY DISEASES.

Coughs, "colds," grippe and pneumonia are caused by germs that come from the mouths or noses of other persons.

Therefore, to prevent disease:

A. Do not allow germs to gain entrance into the mouth or nose.

B. Do not allow your physical condition to go below par.

C. If you are sick do not expose others.

To prevent germs from getting into the mouth or nose:

1. Avoid persons who are coughing or sneezing.
2. Keep fingers and pencils away from the mouth.
3. Outside the home use individual drinking cups,— at home, see that cups are properly washed.
4. Avoid crowds.

To keep the body strong:

1. Do not allow yourself to get tired, hungry or cold.
2. Sleep and work in rooms filled with fresh air, avoid drafts and keep the body warm.
3. Take plenty of exercise in the open air.
4. Eat simple, nourishing food, but avoid alcoholic drinks.
5. Never let the body get too hot or too cold.
6. Dress according to the weather conditions.

To keep germs from others if you get sick:

1. Cover your nose or mouth with a handkerchief when you cough or sneeze and turn your face away from others.
2. If you have a cold or are subject to sneezing, keep away from crowds.
3. Wash your hands frequently.
4. Do not expectorate on floors, streets or cars.

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## SCHOOL OPENING.

### Inspection. Responsibility.

A great economic and physical loss has been caused in years past due to lack of inspection and examination of school children. At the present time almost every city in the country has a division or department for this work, and while it may not be perfect everywhere a start has been made with results that are bound to be productive of improvement. In cities where this work is carried on there is a gradual but constant betterment in the mental and physical development and progress of the growing school child. The prevention of communicable diseases is coupled with the detection of physical defects and ailments in any child that enters school, and while no treatment is applied, recommendations are sufficient in most cases to have defects treated and corrected by the family

physician. The effort on the part of municipalities to bring to the attention of parents (who are often neglectful through ignorance) conditions in a child that should not exist is an endeavor that has come to stay, because facts have proven that this work is of a pressing necessity in a community. Physical health is essential to mental growth and good citizenship, and it is a duty on the part of the government, whether it be town, city, state or national, to see to it that every child within its confines is accorded every assistance to improve his education and thereby enhance his value to the community. To do this properly each child must and should have a proper start, for, after all, competition in every branch starts in childhood, and a child handicapped in early youth has much to make up in the race of life. Ill health, physical defects, deformities, lowered vital efficiency are now noticed by the physician, the nurse and the teacher when the pupil enters school, and the system has been so arranged that as soon as such deficiencies are noticed the child is referred to the parents and family physician for attendance with the result that treatment is applied, defects corrected and physical conditions improved. Of course this does not obtain in all cases. The dangers and handicaps that a child suffers because of illness and defects in childhood are manifold and it is strange that the government had not recognized it years before the first start was made in this country. Absence on the part of the child from school is due invariably these days to illness or some ailment that in most cases is unwarranted. This absence leads to backwardness on the part of the child, keeps it from promotion, stifles ambition, leads to embarrassment, causes loss of interest in school work, and it entertains the daily hope of getting out of school as quickly as possible and in any manner. The child wants to get away from the environment in which he has been unsuccessful, he wants to go to work, and the bottom of the ladder is the lowest rung for a long time with the top never in sight for him. This is not imagination. These facts may be substantiated in every city neighborhood, and it may be further added that this lack of education on the part of the child leads to laziness, carelessness, indolence and finally an institution supported by the government. Physical defects often lead to criminal tendencies and abuses that are most difficult to curb, and all because of neglect on the part of the government and the parents to intensify their efforts in providing physical inspection and examination of children during their school age.

While the school teacher, the nurse and the physician may be of great service in the school, the parents of the child must shoulder some responsibility in co-operating with the authorities in their efforts to assist the child at the opening of the school term. In-

struction and advice of the school physicians should be followed to the letter and if the child needs treatment it is the duty of the parents to provide it. Only in this way, may proper inspection and examination be carried out to advantage to the pupil and the community. As schools are just opening, a word to parents at this time may not be amiss. See to it if possible that your child is in good physical condition and free from any communicable disease. If there is the least suspicion on your part, take the child to the physician and have him treated and defects corrected before he enters school. This is not only a protection and an advantage to the child, but is also a safeguard to all other pupils in the room. All children physically fit are obliged to present sufficient evidence of vaccination before entering school and this should be done before the opening of the school term. Children who have been stopping at widely separated localities, a good many from the country, free from close contact with children who may have a communicable disease, gather in the school. The outdoor life has changed to an indoor one and all are brought together again in one common environment. The change is a radical one and it is a condition that is more conducive to the spread of disease than the outdoor country life that many children enjoy during the summer months.

There are some simple rules that parents might encourage their children to follow and also follow themselves,— simple common sense, decency and cleanliness, which will ward off many diseases that often prove fatal.

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## VITAL STATISTICS FOR MEDICAL MEN.

*(The following notes are a continuation of the series by Dr. Frederick L. Hoffman, consulting statistician, that began in the November, 1927, issue of the "Bulletin." As explained at that time, these notes will be so written as to make them readable and attractive to medical men, public health workers and laymen, and in such a manner that they will show their direct relation and value to the prevention of disease and prolongation of life.)*

### Anthrax.

The mortality from anthrax averages about sixty deaths a year in the registration area. From 1915 to 1924, the mortality has varied as follows:

MORTALITY FROM ANTHRAX, UNITED STATES REGISTRATION AREA, 1915–24, PER 100,000.

| | | | |
|---|---|---|---|
| 1915 | 52 | 1920 | 41 |
| 1916 | 36 | 1921 | 56 |
| 1917 | 66 | 1922 | 46 |
| 1918 | 63 | 1923 | 55 |
| 1919 | 58 | 1924 | 59 |

In proportion to the population these figures yield a death rate which is practically negligible, but anthrax is nevertheless an impor-

tant mortality factor in that the disease is largely concentrated upon industrial employments connected with the handling of leather and hides. The disease has quite a literature of its own in that strenuous efforts have been made by governments everywhere to bring about its effective prevention and control. On account of its being primarily of an industrial nature, the disease is largely limited to males and to the white population. In 1925, in the registration states, there were 16 deaths from anthrax of white males, three of colored males and three of white females. It has no decided geographical distribution but is usually of sporadic local significance. Thus, in 1923 it prevailed considerably in the State of California causing 12 deaths, and in 1917 in Missouri where it caused 12 deaths also. It is somewhat more frequent in cities than in rural sections. The disease is generally imported into this country, possibly as the result of defective inspection at quarantine. It prevails to an enormous extent in Soviet Russia where, in 1926, the total number of registered cases of anthrax was 14,654. The number of deaths from anthrax in England and Wales since 1916 has been as follows:

MORTALITY FROM ANTHRAX, ENGLAND AND WALES, 1916–26, PER 100,000.

| | | | |
|---|---|---|---|
| 1916 | 28 | 1922 | 9 |
| 1917 | 22 | 1923 | 13 |
| 1918 | 12 | 1924 | 9 |
| 1919 | 19 | 1925 | 10 |
| 1920 | 14 | 1926 | 6 |
| 1921 | 11 | | |

The above table gives a total of 153 deaths from anthrax during the eleven years ending with 1926, of which 18 were deaths of females. An important report containing suggestive statistics and valuable observations on "Anthrax in the Tannery Industry" was published by the International Labor Office in 1923. Of even greater importance is the report on the "Disinfection of Wood Infected with Anthrax Spores," published in connection with the proceedings of the International Labor Conference, Third Session, Geneva, October, 1921. In a supplementary report published by this organization it is shown that the total number of anthrax cases arising from the handling of wool averaged from 24 to 63 per cent in different years. The most recent comprehensive review of the entire anthrax situation is contained in a contribution to the *Lancet* of January 2 and January 9, 1926, on "The History of Anthrax in the Wool Industry of Bradford, and of its Control" by Dr. F. W. Eurich. A report on the subject has also been published by the United States Department of Labor. According to the last annual report of His Majesty's Chief Medical Inspector of Factories for 1926, the number of reported cases of an-

thrax in 1925 was 54, of which 9 were fatal; 25 of these cases occurred in connection with the handling of wool; three in connection with the handling of horse hair; 16 in connection with the handling of skins and 1 in connection with other industries.

## Infantile Paralysis.

This mysterious and pathetic affection of early childhood seems now firmly established in this country, but the annual mortality is subject to violent fluctuations. Between 1915 and 1924 the rates per 100,000 of population have varied as follows:

| | | | |
|---|---|---|---|
| 1915 | 1.0 | 1920 | 0.9 |
| 1916 | 10.0 | 1921 | 1.8 |
| 1917 | 1.6 | 1922 | 0.8 |
| 1918 | 1.6 | 1923 | 0.9 |
| 1919 | 0.9 | 1924 | 1.1 |

The geographic incidence of the mortality also varies enormously. During the worst year, or 1916, the highest rate prevailed in the State of New Jersey, or 42.5, followed by the State of New York with 33.9. Massachusetts had a rate of 12.6 and Vermont of 3.4. Although much attention has been given to the disease and a considerable amount of statistical research has been undertaken, no definite periodicity of occurrence or precise correlation to weather phenomena has been established. The annual mortality in the registration area from infantile paralysis was 1,079. During the epidemic of 1916, the number of deaths in the registration area, which in that year represented about 70 per cent of the population, was 7,130 against 691 during the preceding year. The number of deaths of males that year was 4,013 and of females 2,027. While most of the deaths occurred at ages under five, they were by no means limited to that age period. They are given below in detail and by sex:

DEATHS FROM INFANTILE PARALYSIS BY AGE AND SEX — 1916.

| | Males. | Females. |
|---|---|---|
| Under 1 year | 596 | 478 |
| 1 year | 764 | 580 |
| 2 years | 633 | 456 |
| 3 years | 487 | 337 |
| 4 years | 333 | 248 |
| Total under 5 years | 2,813 | 2,099 |

At ages over five the distribution was as follows:

| | Males. | Females. | | Males. | Females. |
|---|---|---|---|---|---|
| 5–9 | 703 | 533 | 25–29 | 66 | 35 |
| 10–14 | 192 | 154 | 30–34 | 22 | 19 |
| 15–19 | 130 | 81 | 35–39 | 28 | 14 |
| 20–24 | 92 | 43 | 40–44 | 11 | 6 |

At forty-five and over, the mortality becomes negligible, but continues to extreme old age.

The present indications are that infantile paralysis may prevail to an extent considerably above the average during the current year and warnings to this effect have been issued by the Department of Health in New York and other health authorities throughout the country.

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## SUMMARY OF WORK, AUGUST, 1928.

### ADMINISTRATION DIVISION.

| | |
|---|---|
| Prosecutions ordered | 6 |
| Legal notices | 181 |
| Lying-in-hospital approved | 1 |
| Contracts awarded | 2 |
| Culture station approved | 1 |
| Settlements: | |
| Total cases | 226 |
| Notices | 75 |
| Bills | 151 |

| Personnel: | |
|---|---|
| Retirement | 1 |
| Appointment, temporary | 1 |
| Appointments, provisional | 2 |
| Appointments, permanent | 20 |
| Resignation | 1 |

### LICENSES, PERMITS, ETC., ISSUED.

| | |
|---|---|
| Burial permits | 9 |
| Beverages | 8 |
| Denatured alcohol | 44 |
| Dumps approved | 2 |
| Grease | 1 |
| Hen licenses | 17 |
| Milk license revoked | 1 |
| Manicure-massage | 101 |

| | |
|---|---|
| Milk | 131 |
| Ice cream | 7 |
| Pedlers | 90 |
| Garbage transportation | 7 |
| Undertaker | 1 |
| Denatured alcohol licenses revoked | 2 |

### MEDICAL DIVISION.

| | |
|---|---|
| Reported cases | 664 |
| Non-resident | 73 |
| Cases brought to Boston for treatment | 73 |
| Deaths investigated | 25 |

| Visits: | |
|---|---|
| By V. D. investigator | 182 |
| By medical inspectors | 185 |
| By veterinarian | 237 |

| | |
|---|---|
| Diptheria | 358 |
| Tuberculosis | 334 |
| Typhoid | 84 |
| Gonorrhea | 825 |
| Gonorrheal ophthalmia | 90 |
| Syphilis | 1,128 |
| Other examinations * | 263 |
| Bacteriological examinations of milk | 561 |
| Bacteriological examinations of ice cream | 61 |
| Milk bottles examined | 34 |
| Caps for milk bottles examined | 102 |

* Malaria, 5; test for virulence, 1; genito-urinary tuberculosis, 8; paratyphoids, 30; Vincent's angina, 3; genito-urinary tuberculosis, 8; cream pie, bread, ham, beef, peas, corned beef, malted milk, glucose and smear for organisms, 12; roast beef for T. B., 1; urines, 173; cherry cake for organisms, 1; cultures for streptococci, 11; smear from abscess for T. B., 1; sputum for T. B., 1; ice for foreign matter, 7; clams for B. Coli, 2; candy for foreign matter, 2; bread for foreign matter, 1; veal for poison, 1; water for pollution, 1; filter washing for pollution, 1; urines, 137; feces for B. Typhosus, 31; urines for B. Typhosus, 31; pork for poison, 1.

## FOOD DIVISION.

### SURVEY OF THE QUALITY OF MILK SOLD BY BOSTON WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during August, 1928. Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat; for bacteria, it is required that it contain per cubic centimeter not more than 100,000 in pasteurized milk and in raw milk; and not more than 10,000 in certified milk.

KEY TO KIND OF MILK.

P means pasteurized milk.

C means raw certified milk, the only kind sold by this dealer.

R means raw milk from accredited herds of tuberculin tested cows, the only kind sold by this dealer.

| NAME OF DEALER. | Kind of Milk. | SOLIDS. Per Cent. | FAT. Per Cent. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| Allen, Fred H. | P | 12.15 | 3.75 | 28 |
| Antetomasso, Peter | P | 12.26 | 3.95 | 18 |
| Barron, C. W. | C | 13.68 | 4.70 | 10 |
| Bergmann, J. H. | P | 12.77 | 4.18 | 56 |
| Bolio, William | R | 11.78 | 3.60 | 25 |
| Brandley, F. J. and P. J. | R | 12.15 | 3.73 | 30 |
| Casey, James | P | 12.47 | 3.85 | 173 |
| Cashin, James F., & Co. | P | 12.28 | 3.83 | 60 |

| Name of Dealer. | Kind of Milk. | Solids. | Fat. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| | | Per Cent. | Per Cent. | |
| Cedar Hill Farm, Inc. | C | 12.87 | 4.18 | 10 |
| Chapin, George L. | P | 12.33 | 3.75 | 20 |
| Clark, Levi | P | 12.22 | 3.88 | 15 |
| Corkery, John J. | P | 12.12 | 3.80 | 26 |
| Cosgrove, Martin S. | P | 12.58 | 4.15 | 40 |
| Cummings, Francis S., Company | P | 12.28 | 3.87 | 28 |
| Daley, John | P | 12.15 | 3.70 | 18 |
| Dean, Louis W. | P | 12.39 | 4.08 | 158 |
| Denehy, Timothy | P | 11.98 | 3.35 | 24 |
| Deerfoot Farms Company | P | 12.78 | 4.05 | 18 |
| Driscoll, William B., Company | P | 12.27 | 3.88 | 24 |
| Elm Spring Farm Company | P | 12.38 | 4.15 | 60 |
| Edgerly, Frank S. | P | 12.46 | 4.08 | 82 |
| Ferguson, Malcolm D. | P | 12.11 | 3.55 | 171 |
| Garfield, Mason | R | 14.16 | 5.05 | 9 |
| Garvin, Charles | P | 13.68 | 4.75 | 13 |
| Giroux, J. E. and H. J. | P | 12.16 | 3.70 | 76 |
| Griffin, Joseph L. | P | 12.38 | 3.90 | 19 |
| Gushee, Chester W. | P | 12.56 | 3.90 | 10 |
| Herlihy Brothers, Inc. | P | 12.30 | 3.89 | 60 |
| Hickey, James B. | P | 12.02 | 3.70 | 26 |
| Holden, John E. | P | 12.14 | 3.76 | 19 |
| Hood, H. P., and Sons, Inc. | P | 12.20 | 3.87 | 25 |
| Hutchinson, Frank T. | P | 12.07 | 3.69 | 279 |
| Jones, William T., Company | P | 12.38 | 3.88 | 36 |
| Kendall Brothers | P | 12.17 | 3.70 | 20 |
| Kingston, Samuel | P | 12.72 | 3.80 | 28 |
| Knapp, George J. | P | 12.56 | 4.21 | 147 |
| Lang Brothers | P | 12.11 | 3.73 | 26 |
| Larsson, Charles | P | 12.07 | 3.65 | 58 |
| LeBaron, Frederick | R | 13.51 | 4.63 | 37 |
| Ludwig Brothers | P | 12.12 | 3.75 | 30 |
| Lyndonville Creamery Association | P | 12.48 | 3.99 | 21 |
| Manning, Peter | P | 12.28 | 3.83 | 128 |
| McAdams, J. F., & Brothers,, Inc. | P | 12.40 | 3.98 | 30 |
| McKernan, James | P | 12.16 | 3.85 | 95 |
| Munchback, George | P | 12.44 | 3.72 | 26 |
| New England Creamery Products Company | P | 12.64 | 4.04 | 69 |
| Pine Grove Dairy, Inc. | P | 12.19 | 3.75 | 62 |

| Name of Dealer. | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| Robinson, A. J. | P | 12.90 | 4.28 | 30 |
| Schuster, Adam | P | 12.14 | 3.70 | 30 |
| Seven Oaks Dairy Company | P | 12.12 | 3.88 | 19 |
| Shick, Jacob | P | 12.39 | 3.82 | 52 |
| Somerset Farms Creamery Company | P | 12.76 | 3.80 | 14 |
| Sterling Farms Milk Company | P | 12.18 | 3.70 | 20 |
| Stone, H. L. | P | 12.46 | 4.15 | 38 |
| Stuart, W. E., Company | P | 12.14 | 3.88 | 27 |
| Turner Center System | P | 12.10 | 3.78 | 15 |
| United Farmers Co-operative Creamery Company | P | 12.50 | 4.02 | 30 |
| Vartanian, K. | P | 12.24 | 3.75 | 16 |
| Vartanian, S. | P | 12.44 | 4.08 | 24 |
| Walker-Gordon | C | 12.96 | 3.95 | 10 |
| Weiler, E., & Sons | P | 12.51 | 4.12 | 60 |
| Westwood Farm Milk Company | P | 12.35 | 3.98 | 24 |
| White Brothers | P | 12.31 | 3.85 | 20 |
| Whiting Milk Companies | P | 12.21 | 3.80 | 28 |
| Whittemore, W. D. | P | 12.60 | 3.80 | 24 |
| Williams, Edward C. | P | 12.76 | 4.16 | 44 |
| Wiswall, Granville A. | P | 12.40 | 3.60 | 30 |
| Woodland, Charles L. | P | 12.38 | 3.90 | 28 |

## CHAIN STORE MILK.

| Name of Dealer. | Supplied by | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria, Thousands In One Cubic Centimeter. |
|---|---|---|---|---|---|
| The Great Atlantic & Pacific Tea Company. | Hood, H. P., & Sons, Inc. | P | 12.11 | 3.83 | 24 |
| Brown, M., & Sons | Whiting Milk Companies, | P | 12.02 | 3.72 | 16 |
| Cloverdale, The, Company. | Turner Center System | P | 12.18 | 3.85 | 23 |
| Economy Grocery Stores Company. | Whiting Milk Companies, | P | 12.08 | 3.72 | 69 |
| First National Stores, Inc., | Bellows Falls Co-operative Creamery. | P | 12.77 | 4.20 | 38 |
| Morgan Brothers Company. | New England Creamery Products Company. | P | 12.30 | 3.91 | 33 |
| Winer, M., Company | M. Winer Company | P | 12.58 | 4.01 | 75 |

## MILK INSPECTION — SAMPLES EXAMINED.

CHEMICAL:

| | |
|---|---|
| Milk from wagons | 308 |
| Milk from stores | 797 |
| Milk brought by citizens | 66 |
| Vinegar | 30 |
| Food samples | 4 |
| Water and sewage | 6 |
| Ice cream | 24 |
| Butter | 8 |
| Miscellaneous examinations | 1 |
| Samples referred to Bacteriological Laboratory for examination | 758 |
| Court cases | 13 |
| Fines | $100 |

## DAIRY DIVISION.

| | | | |
|---|---|---|---|
| Total services | 1,295 | Total cattle inspected | 12,316 |
| Dairies inspected | 855 | Inspections of milk plants and licensed dealers | 249 |
| Scoring above 50* | 623 | Bacteriological examinations | 106 |
| Scoring below | 232 | Country creamery inspections | 9 |
| With milk rooms | 664 | Sediment tests | 60 |
| Without milk rooms | 191 | | |
| Inactive | 12 | | |

* Passable mark.

## MARKET, STORE AND RESTAURANT DIVISION.

### CONDEMNATIONS.

| | | | |
|---|---|---|---|
| Meat | 1,674 pounds | Fish | 4,600 pounds |
| Confectionery | 460 pounds | Fruit | 5,428 pounds |
| Vegetables | 1,867 pounds | Groceries | 1,380 pounds |

| | | | |
|---|---|---|---|
| District inspections | 1,964 | Cases in court | 10 |
| Reinspections | 336 | Convictions | 6 |
| Markets | 730 | Fines | $115 |
| Terminals | 389 | Samples taken | 9 |
| Vehicles | 3,430 | Samples referred for chemical and bacteriological examinations | 100 |
| Street stands | 984 | | |
| Complaints | 110 | | |
| Notices served | 77 | | |

## ABATTOIR DIVISION.

| | | | |
|---|---|---|---|
| Cattle inspected | 3,766 | Parts condemned (lbs.) | 13,262 |
| Calves inspected | 2,769 | Animals condemned | 50 |
| Swine inspected | 3,361 | | |

## SANITARY DIVISION.

| | | | |
|---|---|---|---|
| Original inspections | 2,029 | Complaints investigated | 719 |
| Reinspections | 4,807 | Court cases authorized | 3 |
| Legal notices served | 150 | Nuisances abated | 1,352 |

## TUBERCULOSIS DIVISION.

| Districts. | Number of Clinic Sessions. | Total Number of Cases at Clinics. | | | Total Number of New Cases at Clinics. | | |
|---|---|---|---|---|---|---|---|
| | | Adults. | Children. | Total. | Adults. | Children. | Total. |
| South End | 17 | 129 | 38 | 163 | 37 | 13 | 50 |
| East Boston | 12 | 57 | 48 | 105 | 12 | 4 | 16 |
| North End | 14 | 55 | 81 | 136 | 12 | 12 | 24 |
| West End | 14 | 31 | 22 | 53 | 8 | 4 | 12 |
| South Boston | 9 | 64 | 28 | 92 | 11 | 8 | 19 |
| Boston Dispensary | 14 | 42 | 9 | 51 | 8 | 1 | 9 |
| Brighton | 8 | 22 | 16 | 38 | 5 | 4 | 9 |
| Charlestown | 9 | 49 | 28 | 77 | 8 | 11 | 19 |
| Codman square | 9 | 54 | 43 | 97 | 21 | 10 | 3 |
| Hyde Park | 10 | 19 | 19 | 38 | 3 | 6 | 9 |
| Totals | 850 | 518 | 332 | 850 | 125 | 73 | 19 |

| Districts. | Von Pirquet. | Wassermann. | Lamp. |
|---|---|---|---|
| South End | 9 | 27 | 35 |
| East Boston | 9 | 8 | 3 |
| North End | 16 | 9 | 15 |
| West End | 6 | 1 | — |
| South Boston | 12 | 7 | 44 |
| Boston Dispensary | 1 | 4 | — |
| Brighton | 5 | 3 | — |
| Charlestown | 13 | 2 | — |
| Codman square | 16 | 6 | — |
| Hyde Park | 9 | 2 | — |
| Totals | 96 | 69 | 97 |

## TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING AUGUST, 1928.

| Classification. | Number. | Percentage. |
|---|---|---|
| After death | 9 | 27.27 |
| Seven days or less | 5 | 15.15 |
| Eight to fourteen days, inclusive | 1 | 3.03 |
| Fifteen to twenty-one days, inclusive | 2 | 6.06 |
| Twenty-two to thirty-one days, inclusive | 4 | 12.12 |
| Within First Month. (Total) | 21 | 63.63 |
| Within second month | 1 | 3.03 |
| Within third month | 1 | 3.03 |
| Within fourth month | 2 | 6.06 |
| Within fifth month | — | — |
| Within sixth month | 1 | 3.03 |
| Within seventh month | 1 | 3.03 |
| Within eighth month | 1 | 3.03 |
| Within ninth month | — | — |
| Within tenth month | — | — |
| Within eleventh month | — | — |
| Within twelfth month | — | — |
| Within First Year Preceding Death. (Total) | 28 | 84.84 |
| Within second year | 3 | 9.09 |
| Within third year | — | — |
| More than three years | 2 | 6.06 |
| Grand totals | 33 | 99.99 |

## CHILD HYGIENE DIVISION.

| | |
|---|---|
| Inspections | 74 |
| Physical examinations | 381 |
| Toxin-antitoxin administrations | 37 |
| Vaccinations | 728 |
| Vaccination certificates issued | 364 |
| Antityphoid inoculations | 16 |
| Day nursery visits | 8 |
| Conferences | 1 |

## CHILD HEALTH CONFERENCES.

| Station. | Toxin–Antitoxin. | | | | Number of Vaccinations. |
|---|---|---|---|---|---|
| | First. | Second. | Third. | Total. | |
| Old Town Hall, Brighton | 6 | 5 | 2 | 13 | 34 |
| 31 Lincoln street, Brighton | — | 1 | 1 | 2 | 42 |
| Charlestown Municipal Building | — | 3 | 6 | 9 | 298 |
| Codman Square Library | 11 | 7 | 4 | 22 | 147 |
| Columbia Road Municipal Building | — | — | — | — | 220 |
| 1 Arcadia street, Dorchester | — | — | — | — | 411 |
| East Boston Health Unit | — | — | — | — | — |
| Hyde Park Municipal Building | — | — | — | — | 95 |
| Curtis Hall, Jamaica Plain | 1 | 2 | 1 | 4 | 72 |
| 41 North Margin street | — | — | — | — | 16 |
| Roslindale Municipal Building | — | — | 2 | 2 | 133 |
| Beth Israel Hospital | — | — | — | — | 1 |
| Children's Hospital | 14 | 9 | 3 | 26 | 26 |
| 1049 Columbus avenue | — | — | — | — | 276 |
| Vine Street Municipal Building | — | 1 | — | 1 | 198 |
| 133 Dorchester street, South Boston | — | 1 | 1 | 2 | 76 |
| 122 Tyler street | 2 | 1 | 2 | 5 | 6 |
| Shawmut Avenue Municipal Building | 2 | 3 | 3 | 8 | 21 |
| 57 East Concord street | — | — | — | — | 22 |
| 17 Blossom street | — | — | — | — | — |
| Totals | 36 | 33 | 25 | 94 | 2,094 |

| Station. | Number of Babies. | Number of Preschool. | Total Attendance. | Number of New Babies. | Number of New Preschool. | Total New Cases. | Number of Conferences. | Average Attendance. |
|---|---|---|---|---|---|---|---|---|
| Old Town Hall, Brighton | 224 | 46 | 270 | 30 | 2 | 32 | 5 | 54 |
| 31 Lincoln street, Brighton | 90 | 73 | 163 | 14 | 3 | 17 | 5 | 33 |
| Charlestown Municipal Building | 373 | 71 | 444 | 43 | — | 43 | 9 | 39 |
| Codman Square Library | 441 | 18 | 459 | 89 | 17 | 106 | 9 | 60 |
| Columbia Road Municipal Building | 479 | 14 | 493 | 66 | 1 | 67 | 9 | 55 |
| 1 Arcadia street, Dorchester | 286 | 17 | 303 | 37 | — | 37 | 9 | 34 |
| East Boston Health Unit | 421 | 17 | 438 | 67 | 1 | 68 | 9 | 49 |
| Hyde Park Municipal Building | 163 | 35 | 198 | 20 | — | 20 | 4 | 50 |
| Curtis Hall, Jamaica Plain | 116 | 29 | 145 | 19 | 9 | 28 | 4 | 36 |
| 41 North Margin street | 368 | 56 | 424 | 67 | 16 | 83 | 9 | 47 |
| Roslindale Municipal Building | 373 | 15 | 388 | 64 | 3 | 67 | 9 | 43 |
| Beth Israel Hospital | 441 | 36 | 477 | 74 | 9 | 83 | 9 | 53 |
| Children's Hospital | 207 | 24 | 231 | 36 | 5 | 41 | 5 | 46 |
| 1049 Columbus avenue | 259 | 74 | 333 | 41 | 6 | 47 | 9 | 37 |
| Vine Street Municipal Building | 248 | 136 | 384 | 34 | 3 | 37 | 4 | 96 |
| 133 Dorchester street, South Boston | 57 | 8 | 65 | 8 | — | 8 | 2 | 32 |
| 122 Tyler street | 117 | 23 | 140 | 12 | — | 12 | 4 | 35 |
| Shawmut Avenue Municipal Building | 161 | 35 | 196 | 16 | 5 | 21 | 5 | 39 |
| 57 East Concord street | 171 | 12 | 183 | 22 | — | 22 | 5 | 37 |
| 17 Blossom street | 368 | 51 | 419 | 37 | 4 | 41 | 9 | 47 |
| Totals | 5,363 | 790 | 6,153 | 796 | 84 | 880 | 133 | 946 |

## HEALTH UNIT ACTIVITIES.

MISCELLANEOUS UNIT ACTIVITIES:

| | |
|---|---|
| Complaint of insanitary conditions | 60 |
| Number of persons given health and other information | 1,429 |
| City visitors | 46 |
| Out of city visitors | 6 |

DENTAL SERVICE:

| | |
|---|---|
| Number of children examined | 704 |
| Number of children's teeth cleaned | 193 |
| Prophylaxis | 511 |

CHILD HYGIENE DIVISION:

| | |
|---|---|
| Number of child health conferences | 41 |
| Total attendance at conferences | 1,850 |
| New babies at conferences | 241 |
| New preschool age children at conferences | 20 |
| Vaccinations performed | 660 |
| Vaccination certificates issued | 373 |
| Number of posture clinics | 5 |
| Total attendance at posture clinics | 20 |
| Toxin-antitoxin administrations | 25 |
| Examined for day nurseries | 464 |

TUBERCULOSIS CLINICS:

| | |
|---|---|
| Number of clinics | 116 |
| Attendance at tuberculosis clinics | 850 |
| New cases | 198 |

NURSING SERVICE:

| | |
|---|---|
| Homes visited by nurses | 3,105 |
| Total visits to babies and preschool children | 2,399 |
| Total communicable disease visits | 252 |
| Total tuberculosis visits | 960 |
| Infant death investigations | 14 |
| Special visits | 4 |
| Alpine lamp treatments | 92 |

BOSTON LYING-IN HOSPITAL:

| | |
|---|---|
| Pre-natal Clinic: | |
| Number of clinics | 20 |
| Attendance | 277 |
| New cases | 80 |

COMMUNITY HEALTH ASSOCIATION:

| | |
|---|---|
| General Division: | |
| Home visits by nurses | 8,041 |

| | | |
|---|---|---|
| Boston Dispensary: | | |
| Calls by district physician | | 114 |
| Infantile Clinic of Children's Hospital: | | |
| Number of clinics | | 4 |
| Attendance | | 35 |

## NURSES' DIVISION.

| | | |
|---|---|---|
| Homes Visited | | 10,236 |
| Child Hygiene: | | |
| Visits to new cases | 1,440 | |
| Visits to old cases | 6,624 | |
| Total | | *8,064 |
| Communicable Diseases: | | |
| Visits to new cases | 290 | |
| Visits to old cases | 676 | |
| Total | | †966 |
| Tuberculosis: | | |
| Visits to new cases | 218 | |
| Visits to old cases | 2,670 | |
| Total | | ‡2,888 |
| Miscellaneous Visits: | | |
| Infant death investigations | 51 | |
| Maternal death investigations | 4 | |
| Patients accompanied to hospital | 1 | |
| Posture clinics | 5 | |
| Other special visits | 1 | |
| Total | | 62 |
| Total number of visits | | 11,918 |

| | Hrs. | Min. |
|---|---|---|
| Hours in station by nurses | 2,180 | 25 |
| Hours in baby conferences | 1,537 | 30 |
| Hours in tuberculosis clinics | 537 | 50 |
| Hours in posture classes | 3 | – |
| Total number of hours | 4,258 | 45 |

* Includes 85 wrong addresses; 971 not seen; 1,056 absent visits.

† Includes 9 wrong addresses; 53 not seen; 62 absent visits; 131 ophthalmia visits.

‡ Includes 43 wrong addresses; 340 not seen; 383 absent visits; 1,212 positive cases visited; 710 contact cases visited; 583 suspect cases visited.

# VITAL STATISTICS, AUGUST, 1928.

## BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING AUGUST, 1928, WITH COMPARATIVE FIGURES FOR AUGUST, 1927.

| | BIRTHS AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928.* | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **All Causes:** | | | | | | |
| Total deaths | **759** | 809 | —50 | **11.40** | 12.24 | —.84 |
| Nonresidents deducted | **596** | 627 | —21 | **8.95** | 9.49 | —.54 |
| **By Age:** | | | | | | |
| Under one year | **76** | 128 | —52 | **1.14** | 1.94 | —.80 |
| One year to four years, inclusive | **26** | 45 | —19 | **.39** | .68 | —.29 |
| Sixty years and over | **314** | 285 | +29 | **4.71** | 4.31 | +.40 |
| **By Special Causes:** | | | | | | |
| Degenerative Diseases, So Called: | | | | | | |
| Apoplexy | **53** | 31 | +22 | **.79** | .47 | +.32 |
| Arteriosclerosis | **17** | 15 | +2 | **.25** | .23 | +.02 |
| Heart disease | **140** | 144 | —4 | **2.10** | 2.18 | —.08 |
| Nephritis, chronic | **49** | 49 | — | **.73** | .74 | —.01 |
| Infant and Maternal Mortality: | | | | | | |
| *a.* Total registered live births | **1,590** | 1,764 | —174 | **23.87** | 26.70 | —2.83 |
| *b.* Registered stillbirths | **40** | 43 | —3 | **.60** | .65 | —.05 |
| Stillbirths per 1,000 births and stillbirths | — | — | — | **24.54** | 23.80 | +.74 |
| *c.* Deaths of mothers from causes incident to childbirth | **11** | 14 | —3 | **.16** | .21 | —.05 |
| Deaths of mothers per 1,000 births and stillbirths | — | — | — | **6.75** | 7.75 | —1.00 |
| Deaths of children in first year of life | **76** | 128 | —52 | **1.14** | 1.94 | —.80 |
| Deaths in first year per 1,000 live births, | — | — | — | **47.80** | 72.56 | —24.76 |
| **Violence:** | | | | | | |
| Accidents | **51** | 42 | +9 | **.76** | .63 | +.13 |
| Homicides | — | 4 | —4 | — | .06 | —.06 |
| Suicides | **10** | 12 | —2 | **.15** | .18 | —.03 |
| **Miscellaneous:** | | | | | | |
| Alcoholism, acute or chronic | **5** | 6 | —1 | **.075** | .09 | —.015 |
| Broncho-pneumonia | **26** | 37 | —11 | **.39** | .56 | —.17 |
| Cancer | **106** | 110 | —4 | **1.59** | 1.66 | —.07 |
| Cirrhosis of the liver | **5** | 2 | +3 | **.075** | .03 | +.045 |
| Diabetes mellitus | **17** | 11 | +6 | **.25** | .17 | +.08 |
| Diarrheal diseases, children under two years of age | **14** | 42 | —28 | **.21** | .63 | —.42 |

*Figures for August, 1928, subject to slight revision upward.

| | CASES AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| Communicable Diseases: | | | | | | |
| Anterior poliomyelitis.....Cases.. | 37 | 64 | —27 | .55 | .97 | —.42 |
| Deaths. | 5 | 12 | —7 | .075 | .18 | —.105 |
| Cerebrospinal meningitis.....Cases.. | 4 | 2 | +2 | .06 | .03 | +.03 |
| Deaths. | 2 | 2 | — | .03 | .03 | — |
| Diphtheria.....Cases.. | 42 | 76 | —34 | .63 | 1.15 | —.52 |
| Deaths. | 3 | 5 | —2 | .04 | .075 | —.035 |
| Influenza.....Cases.. | 5 | 1 | +4 | .075 | .015 | +.06 |
| Deaths. | — | 1 | —1 | — | .015 | —.015 |
| Measles.....Cases.. | 20 | 108 | —88 | .30 | 1.63 | —1.33 |
| Deaths. | — | 1 | —1 | — | .015 | —.015 |
| Pneumonia (lobar).....Cases.. | 30 | 54 | —24 | .45 | .82 | —.37 |
| Deaths. | 13 | 14 | —1 | .19 | .21 | —.02 |
| Scarlet fever.....Cases.. | 45 | 74 | —29 | .67 | 1.13 | —.46 |
| Deaths. | 3 | 3 | — | .04 | .04 | — |
| Tuberculosis (pulmonary).....Cases.. | 133 | 146 | —13 | 2.00 | 2.21 | —.21 |
| Deaths. | 33 | 40 | —7 | .49 | .60 | —.11 |
| Tuberculosis (other forms).....Cases.. | 35 | 30 | +5 | .52 | .45 | +.07 |
| Deaths. | 6 | 8 | —2 | .09 | .12 | —.03 |
| Typhoid fever.....Cases.. | 13 | 21 | —8 | .19 | .32 | —.13 |
| Deaths. | — | 2 | —2 | — | .03 | —.03 |
| Whooping cough.....Cases.. | 120 | 80 | +40 | 1.80 | 1.21 | +.59 |
| Deaths. | 2 | 4 | —2 | .03 | .06 | —.03 |

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1928 (mid-year), based upon the federal census of 1920, has been used.

**DO NOT DESTROY.**

When you have no further use for this Circular give it to someone else.

1103 1559

MONTHLY BULLETIN

# HEALTH DEPARTMENT

CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the EDITOR MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

VOL. 17. BOSTON, OCTOBER, 1928. NO. 10

## "ADAPTING OURSELVES TO HOT WEATHER."

Under the above caption, the New York City Department of "Health Bulletin" for August 25 contains most interesting results of a study of mortality from sunstroke in that city in different years in relation to prevailing temperature and humidity.

In eight years in which there were unusual periods of hot weather and of mortality from sunstroke, the mortality and mortality rate appear in the following tables:

| YEAR. | 1872. | 1892. | 1896. | 1901. | 1911. | 1917. | 1925. | 1928. |
|---|---|---|---|---|---|---|---|---|
| Population..... | 1,000,000 | 1,708,124 | 1,906,129 | 2,118,209 | 4,983,513 | 5,400,345 | 5,877,137 | 6,019,702 |
| Deaths, sunstroke*..... | 212 | 231 | 671 | 724 | 488 | 297 | 340 | 26 |
| Rates per 100,000..... | 22 | 13 | 35 | 34 | 10.15 | 9.20 | 5.78 | 0.43 |

* During the first four years in the table the deaths are for one week of the hot spell; during the second four years, for two weeks of the hot spell. Old City of New York, 1872–1901, inclusive; Greater City, 1911 to date.

The "Bulletin" article gives the temperature and humidity records during the periods in which the mortality from sunstroke chiefly occurred. This weather record is that of the New York Meteorological Observatory in the Arsenal in Central Park, much better located to record actual street conditions than the United States Weather Bureau Station.

In connection with the weather record the "Bulletin" makes the following observation:

"So far as the maximum temperature is concerned, it will be observed that the hot spell of the year 1896 showed ten consecutive days when the temperature was 90 or over: this was the year marked by the highest death rate from sunstroke. But the year 1901 had a death rate almost as high, and yet we find little in the temperature record of 1901 to account for this fact. The high death rate of 1901 can hardly be blamed on the high humidity of the last four days of the hot spell, for our records show that by far the largest number of deaths were recorded before that time. It is also interesting to compare 1928 with 1917. The few extremely hot days in the first few days of the 1917 hot spell brought with them a very high death rate from sunstroke although the humidity was relatively low. In 1928, despite high humidity, and a succession of days with temperatures of 90 degrees or over, the death rate from sunstroke was low."

The "Bulletin's" conclusion is as follows:

"Many factors have contributed to enable us to withstand hot waves better than our forefathers. Among these may be mentioned the extensive substitution of electric power for steam, better knowledge of ventilation, especially a greater appreciation of the value of air movement, improvement in housing conditions, more sanitary workshops, the extension of public parks, more public baths, higher sanitary standards in the home because of better wages, a better understanding of dietetics."

Those who lived in New York through the summers of 1896, 1901 and 1911 will probably remember distinctly the first fifteen days of August, 1896 and, like the writer, fail to recall that anything unusual marked the other summers.

As stated in the "Bulletin," people in New York have changed their habits since 1896, so as better to endure hot weather. Their dietetics are doubtless better. They dress more lightly and wear clothes more conducive to comfort in hot weather. Even by 1901 local custom had begun to change with respect to the consumption of alcoholic beverages. This change had become very marked by 1911. Alcoholic beverages with the noonday meal were reduced in amount if not cut out altogether. Business competition and hustling to get away from business early tended to restrict sociability during business hours. On the whole, busy men had come to consume less alcohol.

The deaths recorded as sunstroke in New York City, in 1896, were very largely cases of true insolation. To a conspicuous extent, they were furnished by heavy beer drinkers. The death toll among drivers of brewery wagons was especially noticeable. So evident

did the relation between alcohol and susceptibility to sunstroke become that before the hot spell of 1896 was over, restaurants and barrooms were serving practically nothing but nonalcoholic drinks.

Another feature of the first fifteen days of August in New York, in 1896, which is likely to be remembered, was the mortality among horses. Streets were actually blocked with dead animals. It was probably not until after 1911 that work horses had been materially reduced in New York City by automobiles, but nothing comparable to the 1896 street conditions from dead horses was ever again seen. Did something develop to protect horses against sunstroke as well as men?

In 1917 the mortality rate from sunstroke in New York City was 9.20 per 100,000. During the period when most of these deaths occurred, South Carolina also was experiencing unusually hot weather. In Columbia both the maximum and the mean temperatures ran steadily higher than in New York, and the mean humidity was certainly not lower, but the mortality from sunstroke was zero. People adapted their lives to the weather. There was generally an abatement of customary activities during the middle of the day, but business and labor, indoors and out, was still carried on.

Fatalities from sunstroke are not common in hot climates even though the humidity be high. Are we sure that we have as yet come to recognize all the factors which may account for the difference in mortality from sunstroke in New York and South Carolina during "hot waves"?

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## HOW THE PUBLIC CAN HELP.

Health departments of cities and towns are established by law and given powers not only to enforce the general statutes and also the ordinances, which from time to time may be enacted, by the city or town wherein the particular Health Department may be functioning, but can also make such rules and regulations as it deems necessary to carry out the purposes for the establishment. The department must enforce these laws and much can be accomplished with the aid of the public.

This assistance will be more often given if the public will realize that the work of the Health Department is the preserving of the welfare of the people by protecting them against unhealthy conditions and unhygienic practices which may tend to produce disease.

Many are willing to assist in the work but few of them have any definite knowledge of the laws bearing on health matters. The public can assist in the prevention and spread of diseases. We demand a high standard of cleanliness in the preparation and serving of food, and if we refuse not only to patronize such places where

cleanliness does not exist, but also report such conditions to the Health Department, such places would soon cease to exist. Much may also be accomplished by the co-operation of manufacturers and purveyors of food in having more hygienic methods in their factories and shops and eating houses. Proper equipment and utensils and washing facilities are needed in order that all containers may be clean and sanitary, and such food kept cool at all times and discarded if it shows the least sign of decomposition. All food that is eaten uncooked should be thoroughly washed, and whether cooked or uncooked should be kept free from flies and dust and animals. Premises should at all times be kept in a clean condition and this applies to where you live and where you work, and free from vermin, rats, flies and other insects.

Filth and rubbish should not accumulate, and if it does through no fault of yours call your Health Department. Dusting is dangerous if done so that the dust can rise and be deposited in another place or breathed into the lungs of those present. Dry dusting and feather dusting are included in this category, as is street cleaning without the surface first having been sprinkled.

These are rules that are simple and easy to observe. Just as easy is it to call a doctor or notify the Health Department when anyone in your family has a suspicious rash as to wait until more serious consequences are likely to result. In all cases of illness the safest rule to follow is to consult your doctor and you will save worry, time and money. Adhere closely to the advice of the doctor or the nurse that calls at your home and you may save a life.

If there are indications that someone in your family has a contagious disease it is your duty to report such condition to the Health Department, especially if you do not have a doctor, because he, too, is obliged by law to report all cases of communicable diseases immediately.

---

## AMENDMENT TO MILK REGULATIONS.

On September 12, 1928, regulations for the sale and care of milk and milk products were revised and amended, effective December 31, 1928. The especially significant features of this work were:

Reporting of diseases among milk handlers is extended to include suspected cases of disease.

All raw milk not certified is excluded from sale in Boston.

All milk not certified must be pasteurized.

Prohibition of anyone receiving for pasteurization any milk having more than 750,000 bacteria per cubic centimeter at the pasteurization plant.

A standard of not more than 50,000 bacteria per cubic centimeter in market milk.

A standard of not more than 500,000 bacteria per cubic centimeter in cream.

In order to help receivers of milk for pasteurization in their problem of aiding the producer to meet the new maximum permissible bacteria content of 750,000 at the pasteurization plant, the following letter was sent by the Health Commissioner to all producers sending market milk to Boston:

*To Producers of Market Milk:*

Massachusetts law, effective January 1, 1929, prohibits anyone receiving market milk for pasteurization and sale in Massachusetts if the milk has more than 750,000 bacteria per cubic centimeter at the pasteurization plant. You need have no failures in meeting this requirement if you will enforce a few simple precautions. Be sure that everything in which milk is placed is clean. Keep stables and cows clean, particularly the flanks and udder; you groom your horse, do not neglect your cow. Wipe udder with a clean damp cloth just before milking. Milk with clean, dry hands. The use of a small top pail will help. Cool milk below 50 degrees Fahrenheit at once after milking, and keep it so. Always use ice water tank cooling. Do not mix night milk with warm morning milk. Plan at once on using ice at least six months in the year, so as to keep milk below 50 degrees Fahrenheit. Unexpected hot days in the fall and spring months spoil huge amounts of milk, and ice must be at hand for use. Three to four tons of ice per cow per year should be plenty. Plan now to harvest an ample supply of ice, and store it well. Equip your wagon with tight sideboards, and a good cover, preferably felt lined, and always keep cans covered during delivery, and iced when necessary; this keeps the cold in and the heat out. These precautions will help you to deliver better milk, and better milk means an increased demand for milk.

Yours very truly,

FRANCIS X. MAHONEY, M. D.,
*Health Commissioner.*

## ROCKEFELLER FOUNDATION POLICY.

The Foundation has always maintained the conviction that public health work is essentially a function of government and that private agencies could best be employed in pioneering to aid government organizations to open up new lines of work and to extend the possibilities of their programs.

The development of this policy has resulted in two outstanding contributions toward the prevention of disease and the betterment

of the health of nations: (1) assistance to official public health organizations in the development of administrative measures based on scientific knowledge of diseases; and (2) field research in the epidemiology of disease, thus making possible the application of advanced scientific knowledge in the development of an administrative program.

The diseases which have been selected for the investigation in the past are of world-wide distribution and of great economic importance. The essential principles of hookworm disease campaigns have now been developed to a point where administrative measures can be applied satisfactorily and economically. The epidemiology of malaria still calls for further investigation, but good progress is being made. It would seem, therefore, that the time is ripe to initiate a new project — an international field research concerning one of the most important and wide-spread groups of diseases that effect mankind, viz., acute epidemic respiratory diseases.

This group parallels others which have been studied; it is of great economic and social importance; its distribution is world wide; a large mass of uncorrelated data has been collected in many parts of the world; the epidemiology of the diseases is still obscure; no satisfactory administrative procedure has been developed. Thus the unsolved problem is at hand. The solution will be difficult. With our present knowledge and equipment it may prove unsolvable, but the need is unquestioned.

Experience indicates that the method of attack offering the greatest hope of success would be preliminary field research concerning the epidemiology of the diseases. With this idea in mind a joint program of research has been outlined by the Rockefeller Institute for Medical Research and the International Health Division of the Rockefeller Foundation. Work was started by a field laboratory in the rural districts of southern Alabama in October, 1927. It is planned to carry out a similar line of field studies in isolated sections in temperate, tropical, and cold regions.— *The Rockefeller Foundation, Annual Report 1927.*

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## NEW ICE CREAM REGULATIONS.

On September 12, 1928, all existing regulations for the manufacture, sale and care of ice cream were revoked and new regulations adopted. Especially significant features of this work were:

Specifications for building for manufacturing plants.

Specifications for equipment for manufacturing plants.

Standards for materials for ice cream.

Specifications for technique in manufacturing plants.

Permit for delivery or sale of ice cream required, to be issued after an inspection is made and requirements met.

Prohibition of use of rusty containers.

Linings of containers to be either tin or sterile paper.

Care of scoops standardized to inhibit contamination.

Spoons to be either sterile single service spoons or, if reserviced, to be sterilized before such reservice.

Standard of not more than 200,000 bacteria per cubic centimeter.

The revised regulations on milk and ice cream have been printed in pamphlet form and may be had upon application to the Health Department.

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## VITAL STATISTICS FOR MEDICAL MEN.

*(The following notes are a continuation of the series by Dr. Frederick L. Hoffman, consulting statistician, that began in the November, 1927, issue of the "Bulletin." As explained at that time, these notes will be so written as to make them readable and attractive to medical men, public health workers and laymen, and in such a manner that they will show their direct relation and value to the prevention of disease and prolongation of life.)*

### Syphilis.

The mortality from syphilis in the United States registration area in 1926 was 16,466, but included under this term are deaths from locomotor ataxia and general paralysis of the insane. In 1925 the corresponding mortality was 16,332, so that for the two years the respective deaths rates were 15.7 and 15.8 per 100,000 of population. This is about the same rate as from appendicitis. The recorded mortality from syphilis, however, is by no means strictly representative of the true prevalence of the disease, which is often a probable cause of deaths registered as from other and primary causes.

Changes in classification during recent years have probably affected the mortality rate to a certain degree. For syphilis only the death rate has varied from 3.3 per 100,000 in 1900 in the registration area to a maximum of 10.4 during 1917 and 8.3 in 1924. The corresponding rates for tabes dorsalis show a diminution from a maximum of 2.7 in 1911 to 1.7 in 1924. The mortality from general paralysis of the insane registered a maximum of 7.5 during 1915 and a minimum of 5.7 in 1919–20. The corresponding mortality for England and Wales for 1924 for syphilis only was 3.3, for tabes dorsalis, 1.9, and for general paralysis of the insane, 4.0. Hence the prevalence of syphilis in this country is decidedly higher than in England and Wales. In 1926 the English rate for syphilis only was 3.2 per 100,000 for both sexes combined, or respectively 4.2 for males and 2.3 for females.

Strenuous efforts are made in every country to reduce the mortality from syphilis and its prevalence as a disease in non-fatal form. It has always been the bane of armies and navies, and therefore the following data for the United States Army will be of interest. For all venereal diseases combined, it is pointed out in the last annual report of the Surgeon-General of the Army, "It is gratifying to note the very distinct and constant decline from venereal disease incidence in the Army during the last number of years. There has been a decline in the rate each year since 1917, with the exception of 1922, when there was a slight rise." The significance of this statement will be appreciated when it is pointed out that the annual admission rates per 1,000 male military personnel has declined during recent years from a maximum of 180.03 in 1905 to 49.96 in 1926. But while this is true for all forms of venereal diseases combined, primary syphilis has increased from 2.39 per 1,000 white enlisted men in 1908 to 4.05 in 1926. The maximum figure, or 5.15, was reached in 1914. Secondary syphilis, however, has declined from a maximum of 29.33 in 1911 to 5.54 in 1926. The minimum point, or 4.72, was reached in 1925. Tertiary syphilis has remained practically unchanged during the last twenty years. The rate in 1926 was 2.14 per 1,000. For all forms of syphilis combined, however, the rate has diminished from a maximum of 37.22 in 1911 to 11.94 in 1926.

An interesting review of the mortality from syphilis, tabes dorsalis, and general paralysis of the insane in various countries of the world is contained in the monthly Epidemiological Report of the League of Nations for March 15, 1928. This report for Australia gives the death rate from syphilis as having diminished from 3.6 per 100,000 in 1911 to 2.3 in 1926, while for general paralysis of the insane the decrease has been from 3.9 to 3.4, and for tabes dorsalis from 1.5 to 0.8. For all forms of syphilis combined the death rate had declined from 9.0 to 5. 5. For Italy the rates have diminished for all forms of syphilis combined from 27.4 in 1911 to 13.2 in 1923. For the Netherlands, for all forms of syphilis combined, the rates have diminished from a maximum of 8.6 in 1918 to 5.2 in 1925.

Syphilis is one of the outstanding health problems in Soviet Russia. In 1926 the number of cases reported for the whole of Soviet Russia was 487,257, or at the rate of 416 per 100,000 of population. It prevails particularly in the southern portion of Russia where the rates were as high as 699 per 100,000.

In the United States syphilis is decidedly more common among the colored than among the white population. Combining eleven southern states and the District of Columbia the white mortality rate was 8.2 per 100,000 for all forms of syphilis against a colored rate of 37.4. The rate reached a maximum for the colored in the

State of Maryland where it was 70.9. These rates are all for the year 1924. The disparity in the rates becomes still more significant for other than southern states. In twenty-nine other states combined the white death rate from all forms of syphilis was 14.2 against 73.9 for the colored. The report referred to gives a special return for the State of Michigan according to sex, age and marital conditions. At ages 20 to 24, for the male population, the case rate for syphilis was 306 per 100,000 for the married and 387 for the unmarried. At ages 25 to 34, it was 273 for the married and 540 for the unmarried. For the female population, the rate at ages 20 to 24 was 444 for the married and 337 for the single. At ages 25 to 34, the rate was 249 for the married and 261 for the single, while at ages 35 to 44, it was 173 for the married and 137 for the single.

The most important recent work on statistics of syphilis and other venereal infections is by Prof. Peter Haustein of Berlin in the German language. This is a substantial volume of nearly one thousand pages, and contains statistics for most of the civilized countries of the entire world. There has never been a thoroughly comprehensive review of the entire situation for the United States. But considering the grave significance of the disease not only by itself, but as a complicating factor in other diseases it is a subject demanding decidedly more thorough study and consideration.

## Pellagra.

This disease is practically limited to the southern states. In 1926 the number of deaths from pellagra was 3,854 against 3,344 during the preceding year. The respective death rates for the two years were 3.7 and 3.2 per 100,000 of population. For 1925 and 1924 the corresponding rates were 3.2 and 2.4. The number of deaths from pellagra since 1915 in the registration area has been as follows:

DEATHS FROM PELLAGRA, UNITED STATES REGISTRATION AREA, 1915–26.

| | Deaths. | | Deaths. |
|---|---|---|---|
| 1915 | 2,843 | 1921 | 2,541 |
| 1916 | 2,390 | 1922 | 2,640 |
| 1917 | 3,666 | 1923 | 2,352 |
| 1918 | 3,741 | 1924 | 2,347 |
| 1919 | 2,806 | 1925 | 3,344 |
| 1920 | 2,222 | 1926 | 3,854 |

Pellagra is generally considered a deficiency disease prevailing largely among the poor, the under-nourished or mal-nourished, and inmates of institutions for the insane and feeble-minded. It shows no pronounced periodicity and no definite indications of a decline. It is much more common in rural centers than in urban districts.

Thus, in 1914, there were 56 deaths in urban centers against 378 deaths in rural sections in the State of Mississippi; 51 deaths in urban centers and 135 in rural sections in Louisiana; 76 and 258, respectively, in Georgia; 65 and 216 in North Carolina; 121 and 215 in South Carolina; 56 and 207 in Tennessee. Sporadic cases occur in some northern states. Thus, in 1924, there were 7 cases in Illinois; 1 in Indiania; 1 in Iowa; 10 in Kansas; 2 in Maine; 3 in Maryland; 12 in Massachusetts; 5 in Michigan; 1 in Minnesota; 1 in Montana; 4 in New Hampshire; 3 in New Jersey; 17 in New York; 7 in Ohio; 2 in Oregon; 9 in Pennsylvania; 1 in Rhode Island; 1 in Vermont; 1 in Washington; 1 in Wisconsin; 1 in Wyoming, and 1 in Washington, D. C. In the registration states in 1924 there were 294 deaths from pellagra of white males and 274 of colored males; 692 of white females and 846 of colored females. The disease is, therefore, decidedly more common among women than among men, but the precise rate according to race is not available.

The disease is relatively rare below age fifteen and does not become common until about age twenty-five. It falls off gradually, but continues to prevail to the very end of life.

### Cerebral Hemorrhage.

The mortality from cerebral hemorrhage is one of the most important causes of death, being exceeded only by diseases of the heart, cancer, all forms of tuberculosis and pneumonia. Cerebral hemorrhage in 1926 caused a mortality of 90,832 in the registration area against 87,064 in 1925. The death rate from this disease in 1926 was 86.4 per 100,000, and 84.4 in 1925. By comparison, the death rate from cancer in 1926 was 94.9, for all forms of tuberculosis, 87.1, for pneumonia, 93.5, and for diseases of the heart 185.5. In 1926 the corresponding death rate from cerebral hemorrhage, apoplexy, etc., for England and Wales was 69.6 per 100,000 or respectively 63.9 for males and 75.0 for females. The English mortality is, therefore, measurably lower than ours. In England the death rate from cerebral hemorrhage since 1916 has declined from 76.9 to 69.6. This being a combined term it is difficult to deal with the disease in a statisfactory manner without further analysis. For England and Wales the statistics show that the mortality from cerebral hemorrhage so returned was 54.0 per 100,000; for apoplexy, lesion unstated, 5.5; for cerebral embolism, 1.9; and cerebral thrombosis, 8.2. Corresponding statistics for this country are not available in a comparable form.

In 1920 the mortality from cerebral hemorrhage and softening was 97.3 per 100,000 of population or respectively 88.5 for males and

106.3 for females. The mortality does not become significant until about the age thirty-five, and by divisional periods of life, according to sex, has been as follows:

MORTALITY FROM CEREBRAL HEMORRHAGE BY DIVISIONAL PERIODS OF LIFE.

| | Males. | Females. | | Males. | Females. |
|---|---|---|---|---|---|
| 35–44 . . . | 17.4 | 23.7 | 65–74 . . . | 805.0 | 851.5 |
| 45–54 . . . | 72.9 | 96.4 | 75 and over . . | 2056.4 | 2218.7 |
| 55–64 . . . | 274.9 | 298.5 | | | |

The rate for the white population in 1920 for the registration states was 82.8 and for the colored population 72.1. For the cities of the registration states, in 1920, the rate was 81.2 and for the rural portions of the same states 82.7. There is, therefore, no urban concentration of this disease as might reasonably be expected considering the greater nervous strain and stress of urban life.

(*To be continued.*)

## VENTILATION IN THE HOME.

The winter increase in colds and diseases of the lungs is due to several factors. Of first importance is our manner of living in the winter, which brings us in more intimate contact with one another and allows a much greater chance for the dissemination of infection. Secondly, although the effects of outside weather conditions and their relation to respiratory diseases is not well understood, there seems to be but little doubt that changes in weather and exposure to cold and dampness may play a definite part. Lastly, and possibly of more importance, is the poor ventilation which takes place in the home, factory or office.

Man is like a small furnace, he eats food which is utilized to supply the energy necessary for his daily work. The burning of this food in the body gives rise to heat. Some of this is used to keep the body warm while some must be wasted.

It has been found that the most comfortable temperature for human habitations as well as the most healthful one is between 68 degrees and 70 degrees. There should be a slight amount of air motion in all rooms such as is produced by a small window opening. If the temperature is kept between 68 and 70 degrees, the moisture of the air, or, as it is generally known, the relative humidity, will be kept at above 55 degrees.

Scientific studies have shown that a room temperature over 70 degrees may not be healthful because the overheating produces a slight increase in body temperature as well as the pulse rate and breathing rate, because the blood pressure falls and there may be a decrease in the efficiency of the blood circulation system.

Studies have been made in schools in which the rooms were kept at 68.5 degrees and 66.5 degrees. They showed that there was 70 per cent more colds among the pupils in the higher temperature rooms than among those in the rooms maintained at 66.5 degrees.

The proper way to ventilate the home is to provide an accurate thermometer in each living room. This should always be maintained at 68 degrees to 70 degrees by regulating the supply of heat and by keeping the windows open slightly. The slightly opened window will produce a sufficient air movement in the room so as to be stimulating and refreshing and the room will feel comfortable and not stuffy. With a little experience it is possible to maintain these conditions without a great deal of effort, and for persons in good health the home will be very comfortable.

The ventilation of the sleeping room or bedroom is different from the living room. Here the body is at complete rest and covered with heavy bedding which serves to keep it warm. Under these conditions it is possible to take advantage of the full outdoor air by having the windows wide open and having the air circulate about the room. This air movement is very beneficial.

A draft is a rapidly moving stream of air. To cut down drafts in the home it is not necessary to close the windows but merely to open them a slight amount.

Heat your homes until they are comfortably warm. Do not bake yourself so that you take cold when going outdoors. Sleep in a room with windows open and keep warm with plenty of bedding. Air, like sunlight, is man's great benefactor. Get all the out-of-door air you can and in this way you will be helping yourself to be free of colds. (*U. S. P. H. S.*)

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## SMALLPOX IN 1927.

For the fifth successive year the United States reported more smallpox cases in 1927 than any other country except India. According to state reports tabulated by the American Association for Medical Progress, there were 38,498 cases as against 33,343 in 1926. Only three states were entirely free from the disease last year — Connecticut, New Hampshire and Vermont. Delaware and Maine had one case each, Massachusetts had two. New England as a whole had a very good record, Rhode Island reporting five cases, although it had none in 1925. The largest numbers of cases were reported from Indiana (4,809), Georgia (1,853), Washington (1,806), Kentucky (1,762), and North Carolina (1,702). For the first time in ten years the total number of cases in California dropped below 1,000 (984). The mild type of the disease prevailed generally, the total number of

deaths being only 135. According to figures compiled by the Health Section of the League of Nations, England and Wales reported more cases of smallpox (14,767) than all the rest of Europe.

It is significant that in both United States and England smallpox is most menacing where antivaccination sentiment is strongest. In fact, an examination of the vaccinal condition of reported cases shows a consistent preponderance of unvaccinated among all cases of smallpox. In this country most of the states do not require the recording of vaccinal condition with the reporting of smallpox by attending physicians. The American Association for Medical Progress has obtained the information for the sixteen states in which complete records are available. These show that in 1925 and 1926 (16,658 cases) 91 per cent had never been vaccinated, 7 per cent had been vaccinated seven or more years previously, and 2 per cent had been vaccinated within seven years. This last group includes many vaccinated after exposure. In 1927 the records are complete for only 6,942 cases in sixteen states and show 93 per cent had never been vaccinated, 5 per cent had been vaccinated seven or more years previously, and 2 per cent had been vaccinated within seven years. (*American Association for Medical Progress.*)

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## SUMMARY OF WORK, SEPTEMBER, 1928.

### ADMINISTRATION DIVISION.

| | | | |
|---|---|---|---|
| Prosecutions ordered | 2 | Personnel: | |
| Legal notices | 163 | Transfer | 1 |
| Lying-in-hospital approved | 1 | Appointments, temporary | 14 |
| Contracts awarded | 3 | Leaves of absence granted | 3 |
| Culture station approved | 1 | Leave of absence terminated, | 1 |
| Settlements: | | Regulations adopted on ice cream and milk | |
| Total cases | 188 | | |
| Notices | 158 | | |
| Bills | 30 | | |

### LICENSES, PERMITS, ETC., ISSUED.

| | | | |
|---|---|---|---|
| Burial permits | 840 | Milk | 123 |
| Beverages | 5 | Ice cream | 3 |
| Denatured alcohol | 20 | Pedlers | 72 |
| Hen licenses | 66 | Garbage transportation | 8 |
| Manicure-massage | 73 | Undertaker | 1 |

### MEDICAL DIVISION.

| | | | |
|---|---|---|---|
| Reported cases | 624 | Visits: | |
| Nonresidents | 71 | By V. D. investigator | 271 |
| Cases brought to Boston for treatment | 71 | By medical inspectors | 155 |
| Deaths investigated | 10 | By veterinarian | 218 |

| | |
|---|---|
| Diphtheria | 378 |
| Tuberculosis | 320 |
| Typhoid | 55 |
| Gonorrhea | 721 |
| Gonorrheal ophthalmia | 86 |
| Syphilis | 1,080 |
| Other examinations * | 193 |
| Bacteriological examinations of milk | 463 |
| Bacteriological examinations of ice cream | 66 |
| Milk bottles examined | 24 |
| Caps for milk bottles examined | 72 |

* Test for virulence, 1; paratyphoids, 4; Vincent's angina, 1; urines, 153; feces for B. Typhosus, 7; urines for B. Typhosus, 7; ice for B. Coli, 13; water for B. Coli, 1; beans for poison, 4; beans for mold, 1; mushrooms for poison, 1.

## FOOD DIVISION.

### SURVEY OF THE QUALITY OF MILK SOLD BY BOSTON WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during September, 1928. Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat; for bacteria, it is required that it contain per cubic centimeter not more than 100,000 in pasteurized milk and in raw milk; and not more than 10,000 in certified milk.

#### Key to Kind of Milk.

P means pasteurized milk.

C means raw certified milk, the only kind sold by this dealer.

R means raw milk from accredited herds of tuberculin-tested cows, the only kind sold by this dealer.

| Name of Dealer. | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria, Thousands in One Cubic Centimeter |
|---|---|---|---|---|
| Allen, Fred H. | P | 12.44 | 3.95 | 36 |
| Antetomasso, Peter | P | 12.91 | 4.33 | 19 |
| Barron, C. W. | C | 14.36 | 5.00 | 10 |
| Bergmann, J. H. | P | 12.68 | 3.90 | 42 |
| Bolio, William | R | 13.17 | 4.35 | 25 |
| Brandley, F. J. & P. J. | R | 12.43 | 3.90 | 23 |
| Casey, James | P | 12.48 | 3.75 | 60 |
| Cashin, James F., & Co. | P | 12.60 | 3.89 | 48 |

| Name of Dealer. | Kind of Milk. | Solids. | Fat. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| | | Per Cent. | Per Cent. | |
| Cedar Hill Farm, Inc. | C | 13.32 | 4.50 | 34 |
| Chapin, George L. | P | 12.56 | 3.83 | 42 |
| Clapp, Frank L. | R | 12.58 | 3.95 | 24 |
| Clark, Levi | P | 12.07 | 3.70 | 48 |
| Corkery, John J. | P | 12.37 | 3.82 | 40 |
| Cosgrove, Martin S. | P | 14.13 | 5.48 | 30 |
| Cummings, Francis S., Company | P | 12.45 | 3.78 | 24 |
| Daley, John | P | 12.45 | 4.05 | 12 |
| Dean, Louis W. | P | 13.36 | 4.25 | 38 |
| Denehy, Timothy | P | 12.16 | 3.68 | 20 |
| Deerfoot Farms Company | P | 12.72 | 3.99 | 10 |
| Driscoll, William B., Company | P | 12.63 | 4.04 | 21 |
| Elm Spring Farm Company | P | 12.25 | 3.88 | 28 |
| Edgerly, Frank S. | P | 12.52 | 4.00 | 25 |
| Ferguson, Malcolm D. | P | 12.67 | 3.87 | 28 |
| Garfield, Mason | R | 14.58 | 5.45 | 44 |
| Garvin, Charles | P | 14.53 | 5.73 | 11 |
| Giroux, J. E. & H. J. | P | 12.45 | 3.80 | 30 |
| Griffin, Joseph L. | P | 12.65 | 3.88 | 21 |
| Gushee, Chester W. | P | 12.95 | 4.13 | 21 |
| Herlihy Brothers, Inc. | P | 12.45 | 3.97 | 81 |
| Hickey, James B. | P | 12.28 | 3.73 | 17 |
| Holden, John E. | P | 12.44 | 3.90 | 20 |
| Hood, H. P., & Sons, Inc. | P | 12.38 | 3.87 | 24 |
| Hutchinson, Frank T. | P | 12.44 | 3.68 | 42 |
| Jones, William T., Company | P | 12.42 | 4.03 | 45 |
| Kendall Brothers | P | 12.30 | 3.73 | 19 |
| Kingston, Samuel | P | 12.60 | 3.75 | 32 |
| Knapp, George J. | P | 12.37 | 3.85 | 36 |
| Lang Brothers | P | 12.37 | 3.75 | 22 |
| Larsson, Charles | P | 13.07 | 4.60 | 29 |
| Le Baron, Frederick | R | 14.21 | 5.13 | 24 |
| Ludwig Brothers | P | 12.80 | 3.98 | 27 |
| Lyndonville Creamery Association | P | 12.58 | 3.95 | 40 |
| Manning, Hattie | P | 12.52 | 3.93 | 40 |
| McAdams, J. F., & Brothers, Inc. | P | 12.72 | 4.08 | 19 |
| McKernan, James | P | 12.44 | 3.95 | 29 |
| Munchback, George | P | 12.76 | 3.85 | 44 |
| New England Creamery Products Company | P | 12.88 | 4.12 | 27 |

| Name of Dealer. | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria, Thousands in one Cubic Centimeter. |
|---|---|---|---|---|
| Pine Grove Dairy, Inc. | P | 12.18 | 3.80 | 38 |
| Robinson, A. J. | P | 13.10 | 4.25 | 20 |
| Schuster, Adam | P | 12.52 | 3.93 | 19 |
| Seven Oaks Dairy Company | P | 12.39 | 3.93 | 31 |
| Shick, Jacob | P | 12.25 | 3.72 | 32 |
| Somerset Farms Creamery Company | P | 12.89 | 4.12 | 21 |
| Sterling Farms Milk Company | P | 12.55 | 3.89 | 18 |
| Stone, H. L. | P | 12.20 | 3.60 | 20 |
| Stuart, W. E., Company | P | 12.63 | 4.00 | 19 |
| Turner Center System | P | 12.41 | 3.92 | 27 |
| United Farmers Co-operative Creamery Company | P | 12.58 | 4.00 | 20 |
| Vartanian, S. | P | 12.27 | 3.83 | 66 |
| Vartanian, K. | P | 12.49 | 3.95 | 50 |
| Walker-Gordon Laboratory Company | C | 12.68 | 4.05 | 7 |
| Weiler, E., & Sons | P | 13.09 | 4.72 | 21 |
| Westwood Farm Milk Company | P | 12.54 | 4.00 | 18 |
| White Brothers | P | 12.58 | 3.83 | 20 |
| Whiting Milk Companies | P | 12.40 | 3.86 | 21 |
| Whittemore, W. D. | P | 12.79 | 3.90 | 20 |
| Williams, Edward C. | P | 13.00 | 4.38 | 11 |
| Wiswall, Granville A. | P | 12.32 | 3.70 | 29 |
| Woodland, Charles L. | P | 12.35 | 3.63 | 26 |

## CHAIN STORE MILK.

| Name of Dealer. | Supplied by | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|---|
| The Great Atlantic & Pacific Tea Company. | Hood, H. P., & Sons, Inc. | P | 12.34 | 3.82 | 16 |
| Brown, M., & Sons. | Whiting Milk Companies. | P | 12.47 | 3.78 | 43 |
| Cloverdale, The Company, | Turner Center System. | P | 12.69 | 3.90 | 25 |
| Economy Grocery Stores Company. | Whiting Milk Companies. | P | 12.46 | 3.88 | 29 |
| First National Stores, Inc. | Bellows Falls Co-operative Creamery. | P | 13.16 | 4.25 | 22 |
| Morgan Brothers Company | New England Creamery Products Company. | P | 12.64 | 3.95 | 19 |
| Winer, M., Company. | M. Winer Company. | P | 12.77 | 4.03 | 71 |

## MILK INSPECTION — SAMPLES EXAMINED.

CHEMICAL:

| | |
|---|---|
| Milk from wagons | 337 |
| Milk from stores | 624 |
| Milk brought by citizens | 13 |
| Vinegar | 220 |
| Beans | 3 |
| Water | 1 |
| Ice cream | 3 |
| Miscellaneous examinations | 2 |
| Samples referred to Bacteriological Laboratory for examination | 529 |
| Court cases | 14 |
| Fines | $130 |

## DAIRY DIVISION.

| | | | |
|---|---|---|---|
| Total services | 1,243 | Total cattle inspected | 10,569 |
| Dairies inspected | 791 | Inspections of milk plants and licensed dealers | 208 |
| Scoring above 50* | 542 | Bacteriological examinations | 196 |
| Scoring below | 249 | Country creamery inspections | 6 |
| With milk rooms | 580 | Sediment tests | 20 |
| Without milk rooms | 211 | | |
| Inactive | 21 | | |

* Passable mark.

## MARKET, STORE AND RESTAURANT DIVISION.

### CONDEMNATIONS.

| | | | |
|---|---|---|---|
| Meat | 2,791 pounds | Fish | 3,060 pounds |
| Vegetables and fruit | 3,887 pounds | Groceries, etc. | 10,988 pounds |

| | | | |
|---|---|---|---|
| District inspections | 2,793 | Notices served | 191 |
| Reinspections | 392 | Cases in court | 1 |
| Markets | 1,220 | Discharged | 1 |
| Terminals | 1,237 | Samples taken | 16 |
| Vehicles | 4,874 | Samples referred for chemical and bacteriological examinations | 24 |
| Street stands | 1,344 | | |
| Complaints | 68 | | |

## ABATTOIR DIVISION.

| | | | |
|---|---|---|---|
| Cattle inspected | 3,795 | Parts condemned (lbs.) | 18,151 |
| Calves inspected | 2,966 | Animals condemned | 46 |
| Swine inspected | 4,059 | | |

## SANITARY DIVISION.

| | | | |
|---|---|---|---|
| Original inspections | 2,984 | Complaints investigated | 757 |
| Reinspections | 7,511 | Court cases authorized | 3 |
| Legal notices served | 221 | Nuisances abated | 1,946 |

## TUBERCULOSIS DIVISION.

| Districts. | Number of Clinic Sessions. | Total Number of Cases at Clinics. | | | Total Number of New Cases at Clinics. | | |
|---|---|---|---|---|---|---|---|
| | | Adults. | Children. | Total. | Adults. | Children. | Total. |
| South End | 15 | 128 | 74 | 202 | 21 | 9 | 30 |
| East Boston | 13 | 78 | 109 | 187 | 14 | 22 | 36 |
| North End | 11 | 27 | 49 | 76 | 4 | 4 | 8 |
| West End | 11 | 46 | 35 | 81 | 7 | 5 | 12 |
| South Boston | 7 | 58 | 38 | 96 | 12 | 12 | 24 |
| Boston Dispensary | 12 | 34 | 25 | 59 | 8 | 5 | 13 |
| Brighton | 6 | 11 | 25 | 36 | 1 | 6 | 7 |
| Charlestown | 7 | 21 | 20 | 41 | 3 | 6 | 9 |
| Codman square | 7 | 65 | 68 | 133 | 13 | 24 | 37 |
| Hyde Park | 8 | 30 | 27 | 57 | 4 | 7 | 11 |
| Totals | 97 | 498 | 470 | 968 | 87 | 100 | 187 |

| Districts. | Von Pirquet. | Wasserman. | Lamp. | X-Rays. |
|---|---|---|---|---|
| South End | 9 | 7 | 77 | 194 |
| East Boston | 15 | 8 | 8 | 45 |
| North End | 7 | 5 | 33 | 55 |
| West End | 2 | 3 | — | — |
| South Boston | 14 | 8 | 51 | 56 |
| Boston Dispensary | 11 | 1 | — | — |
| Brighton | 3 | 6 | — | — |
| Charlestown | 16 | 7 | — | — |
| Codman square | 17 | 14 | — | — |
| Hyde Park | 15 | 6 | — | — |
| Totals | 109 | 65 | 169 | 350 |

## TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING SEPTEMBER, 1928.

| Classification. | Number. | Percentage. |
|---|---|---|
| After death | 14 | 31.11 |
| Seven days or less | 2 | 4.45 |
| Eight to fourteen days, inclusive | 1 | 2.22 |
| Fifteen to twenty-one days, inclusive | 1 | 2.22 |
| Twenty-two to thirty-one days, inclusive | — | — |
| Within First Month. (Total) | 18 | 40.00 |
| Within second month | — | — |
| Within third month | 3 | 6.66 |
| Within fourth month | 2 | 4.45 |
| Within fifth month | 4 | 8.88 |
| Within sixth month | 2 | 4.45 |
| Within seventh month | — | — |
| Within eighth month | — | — |
| Within ninth month | 2 | 4.45 |
| Within tenth month | — | — |
| Within eleventh month | — | — |
| Within twelfth month | 2 | 4.45 |
| Within First Year Preceding Death. (Total) | 33 | 73.34 |
| Within second year | 7 | 15.55 |
| Within third year | 2 | 4.45 |
| More than three years | 3 | 6.66 |
| Grand totals | 45 | 100.00 |

## CHILD HYGIENE DIVISION.

| | |
|---|---|
| Inspections | 178 |
| Physical examinations | 330 |
| Toxin-antitoxin administrations | 3,734 |
| Vaccinations | 2,301 |
| Vaccination certificates issued | 1,613 |
| Antityphoid inoculations | 5 |
| Day nursery visits | 62 |
| Conferences | 2 |
| Parochial school visits | 101 |

## TOXIN-ANTITOXIN INJECTIONS AND VACCINATIONS, SEPTEMBER, 1928.

| Station. | Toxin–Antitoxin. | | | | Number of Vaccinations. |
|---|---|---|---|---|---|
| | First. | Second. | Third. | Total. | |
| Old Town Hall, Brighton | 1 | 1 | 3 | 5 | 66 |
| 31 Lincoln street, Brighton | — | — | — | — | 50 |
| Charlestown Municipal Building | — | — | 1 | 1 | 230 |
| Codman Square Library | 8 | 6 | 8 | 22 | 206 |
| Columbia Road Municipal Building | 2 | 1 | 1 | 4 | 250 |
| 1 Arcadia street, Dorchester | — | — | — | — | 277 |
| East Boston Health Unit | — | — | — | — | 32 |
| Hyde Park Municipal Building | 8 | 6 | 1 | 15 | 153 |
| Curtis Hall, Jamaica Plain | 1 | 2 | — | 3 | 57 |
| 41 North Margin street | 7 | — | — | 7 | 68 |
| Roslindale Municipal Building | 2 | — | — | 2 | 112 |
| Children's Hospital | 9 | 9 | 8 | 26 | 48 |
| 1049 Columbus avenue | 5 | — | — | 5 | 320 |
| Vine Street Municipal Building | — | — | 1 | 1 | 234 |
| 133 Dorchester street, South Boston | — | — | — | — | 84 |
| 122 Tyler street | 1 | 2 | 1 | 4 | 32 |
| Shawmut Avenue Municipal Building | 4 | 5 | 2 | 11 | 39 |
| 57 East Concord street | 8 | 4 | 4 | 16 | 22 |
| 17 Blossom street | — | — | — | — | — |
| Totals | 56 | 36 | 30 | 122 | 2,280 |

## MONTHLY REPORT OF CHILD HEALTH CONFERENCES, SEPTEMBER, 1928.

| Station. | Number of Babies. | Number of Preschool. | Total Attendance. | Number of New Babies. | Number of New Preschool. | Total New Cases. | Number of Conferences. | Average Attendance. |
|---|---|---|---|---|---|---|---|---|
| Old Town Hall, Brighton | 180 | 22 | 202 | 31 | 5 | 36 | 4 | 51 |
| 31 Lincoln street, Brighton | 85 | 50 | 135 | 17 | — | 17 | 4 | 34 |
| Charlestown Municipal Building | 281 | 19 | 300 | 38 | — | 38 | 7 | 43 |
| Codman Square Library | 375 | 37 | 412 | 38 | 2 | 40 | 7 | 59 |
| Columbia Road Municipal Building | 396 | 5 | 401 | 38 | 1 | 39 | 7 | 59 |
| 1 Arcadia street, Dorchester | 259 | 8 | 267 | 39 | 1 | 40 | 8 | 33 |
| East Boston Health Unit | 392 | 45 | 437 | 71 | 1 | 72 | 7 | 62 |
| Hyde Park Municipal Building | 205 | 17 | 222 | 36 | 1 | 37 | 3 | 74 |
| Curtis Hall, Jamaica Plain | 193 | 123 | 216 | 39 | 5 | 44 | 4 | 54 |
| 41 North Margin street | 231 | 127 | 358 | 34 | 9 | 43 | 8 | 45 |
| Roslindale Municipal Building | 253 | 38 | 291 | 27 | 3 | 30 | 3 | 97 |
| Children's Hospital | 156 | 28 | 184 | 21 | 5 | 26 | 4 | 46 |
| 1049 Columbus avenue | 325 | 34 | 359 | 49 | 7 | 56 | 8 | 45 |
| Vine Street Municipal Building | 365 | 32 | 397 | 37 | 1 | 38 | 7 | 57 |
| 133 Dorchester street, South Boston | 420 | 41 | 461 | 67 | 6 | 73 | 8 | 58 |
| 122 Tyler street | 127 | 31 | 158 | 11 | — | 11 | 4 | 40 |
| Shawmut Avenue Municipal Building | 122 | 38 | 160 | 16 | 2 | 18 | 4 | 40 |
| 57 East Concord street | 154 | 26 | 180 | 19 | — | 19 | 4 | 45 |
| 17 Blossom street | 308 | 23 | 331 | 36 | 1 | 37 | 7 | 47 |
| Totals | 4,827 | 644 | 5,471 | 664 | 50 | 714 | 108 | 52 |

## HEALTH UNIT ACTIVITIES.

DENTAL SERVICE:

| | |
|---|---|
| Number of children examined | 984 |
| Number of treatments by dentist | 1,244 |
| Number of treatments by hygienist | 201 |

STATE DEPARTMENT OF MENTAL DISEASES:

| | |
|---|---|
| Number habit forming clinics | 4 |
| Attendance at tuberculosis clinics | 850 |
| New cases | 198 |

BOSTON LYING-IN HOSPITAL:

Pre-natal Clinic:

| | |
|---|---|
| Number of clinics | 20 |
| Attendance | 289 |
| New cases | 70 |

COMMUNITY HEALTH ASSOCIATION:

General Division:

| | |
|---|---|
| Home visits by nurses | 8,377 |
| Number cases referred | 344 |
| Number diseases reported | 34 |

BOSTON DISPENSARY:

| | |
|---|---|
| Calls by district physician | 84 |

INFANTILE CLINIC OF CHILDREN'S HOSPITAL:

| | |
|---|---|
| Number of clinics | 8 |
| Attendance | 55 |

REFRACTION SERVICE:

| | |
|---|---|
| Number refractions | 6 |
| Number diagnoses | 70 |
| Number glasses prescribed | 32 |
| Number new cases | 23 |

**It is due to ignorance, and is a reflection upon the intelligence of any person, to become ill with typhoid fever or smallpox. Protective means have been discovered by which these diseases may be banished. It has been demonstrated that vaccination will protect you. Why not take advantage of this really free protection?**

**VACCINATION IS SAFE — IT IS SOUND — IT IS SURE.**

## NURSES' DIVISION.

| | | |
|---|---|---|
| Homes Visited | | 13,239 |
| Child Hygiene: | | |
| Visits to new cases | 3,481 | |
| Visits to old cases | 8,948 | |
| Total | | *12,429 |
| Communicable Diseases: | | |
| Visits to new cases | 241 | |
| Visits to old cases | 484 | |
| Total | | †725 |
| Tuberculosis: | | |
| Visits to new cases | 189 | |
| Visits to old cases | 3,773 | |
| Total | | ‡3,962 |
| Miscellaneous Visits: | | |
| Infant death investigations | 75 | |
| Maternal death investigations | 2 | |
| Patient accompanied to hospital | 1 | |
| Posture clinics | 4 | |
| Other special visits | 9 | |
| Visits to parochial schools | 393 | |
| Total | | 484 |
| Total number of visits | | 17,116 |

| | Hrs. | Min. |
|---|---|---|
| Hours in station by nurses | 2,691 | 40 |
| Hours in baby conferences | 1,628 | 50 |
| Hours in tuberculosis clinics | 582 | 45 |
| Hours in posture classes | 2 | – |
| Hours in parochial schools | 318 | 25 |
| Total number of hours | 5,523 | 40 |

* Includes 153 wrong addresses; 1,211 not seen; 1,364 absent visits.

† Includes 1 wrong address; 38 not seen; 39 absent visits; 85 ophthalmia visits.

‡ Includes 42 wrong addresses; 450 not seen; 492 absent visits; 1,699 positive cases visited; 1,099 contact cases visited; 672 suspect cases visited.

# VITAL STATISTICS, SEPTEMBER, 1928.

## BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING SEPTEMBER, 1928, WITH COMPARATIVE FIGURES FOR SEPTEMBER, 1927.

| | BIRTHS AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **All Causes:** | | | | | | |
| Total deaths | **738** | 808 | —70 | **11.08** | 12.13 | —1.05 |
| Nonresidents deducted | **588** | 648 | —60 | **8.83** | 9.73 | —.90 |
| **By Age:** | | | | | | |
| Under one year | **99** | 130 | —31 | **1.49** | 1.97 | —.48 |
| One year to four years, inclusive | **24** | 33 | —9 | **.36** | .50 | —.14 |
| Sixty years and over | **286** | 327 | —41 | **4.29** | 4.91 | —.62 |
| **By Special Causes:** | | | | | | |
| Degenerative Diseases, So Called: | | | | | | |
| Apoplexy | **40** | 46 | —6 | **.60** | .69 | —.09 |
| Arteriosclerosis | **19** | 18 | +1 | **.28** | .27 | +.01 |
| Heart disease | **154** | 155 | —1 | **2.31** | 2.34 | —.03 |
| Nephritis, chronic | **41** | 42 | —1 | **.61** | .63 | —.02 |
| Infant and Maternal Mortality: | | | | | | |
| *a.* Total registered live births | **1,188** | 1,280 | —92 | **17.84** | 19.37 | —1.53 |
| *b.* Registered stillbirths | **34** | 44 | —10 | **.51** | .66 | —.15 |
| Stillbirths per 1,000 births and stillbirths | — | — | — | **27.82** | 33.23 | —5.41 |
| *c.* Deaths of mothers from causes incident to childbirth | **7** | 10 | —3 | **.10** | .15 | —.05 |
| Deaths of mothers per 1,000 births and stillbirths | — | — | — | **5.73** | 7.55 | —1.82 |
| Deaths of children in first year of life | **99** | 130 | —31 | **1.49** | 1.97 | —.48 |
| Deaths in first year per 1,000 live births, | — | — | — | **83.33** | 101.56 | —18.23 |
| Violence: | | | | | | |
| Accidents | **38** | 39 | —1 | **.57** | .59 | —.02 |
| Homicides | **2** | — | +2 | **.03** | — | +.03 |
| Suicides | **8** | 7 | +1 | **.12** | .10 | +.02 |
| Miscellaneous: | | | | | | |
| Alcoholism, acute or chronic | **10** | 11 | —1 | **.12** | .17 | —.05 |
| Broncho-pneumonia | **37** | 42 | —5 | **.55** | .63 | —.08 |
| Cancer | **84** | 102 | —18 | **1.26** | 1.54 | —.28 |
| Cirrhosis of the liver | **3** | 3 | — | **.04** | .04 | — |
| Diabetes mellitus | **13** | 16 | —3 | **.19** | .24 | —.05 |
| Diarrheal diseases, children under two years of age | **33** | 49 | —16 | **.49** | .74 | —.25 |

| | CASES AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **Communicable Diseases:** | | | | | | |
| Anterior poliomyelitis.....Cases.. | 40 | 135 | —95 | .60 | 2.04 | —1.44 |
| Deaths. | 5 | 15 | —10 | .07 | .23 | —.16 |
| Cerebrospinal meningitis.....Cases.. | 1 | 3 | —2 | .015 | .04 | —.025 |
| Deaths. | — | 2 | —2 | — | .03 | —.03 |
| Diphtheria.....Cases.. | 42 | 78 | —36 | .63 | 1.18 | —.55 |
| Deaths. | 5 | 1 | +4 | .07 | .015 | +.055 |
| Influenza.....Cases.. | 11 | 8 | +3 | .16 | .12 | +.04 |
| Deaths. | 1 | 2 | —1 | .015 | .03 | —.015 |
| Measles.....Cases.. | 18 | 71 | —53 | .27 | 1.07 | —.80 |
| Deaths. | — | 3 | —3 | — | .04 | —.04 |
| Pneumonia (lobar).....Cases.. | 41 | 47 | —6 | .61 | .71 | —.10 |
| Deaths. | 16 | 15 | +1 | .24 | .23 | +.01 |
| Scarlet fever.....Cases.. | 72 | 88 | —16 | 1.08 | 1.33 | —.25 |
| Deaths. | — | 2 | —2 | — | .03 | —.03 |
| Tuberculosis (pulmonary).....Cases.. | 107 | 110 | —3 | 1.61 | 1.66 | —.05 |
| Deaths. | 45 | 33 | +12 | .67 | .50 | +.17 |
| Tuberculosis (other forms).....Cases.. | 30 | 33 | —3 | .45 | .50 | —.05 |
| Deaths. | 7 | 7 | — | .10 | .10 | — |
| Typhoid fever.....Cases.. | 8 | 31 | —23 | .12 | .47 | —.35 |
| Deaths. | — | 1 | —1 | — | .015 | —.015 |
| Whooping cough.....Cases.. | 69 | 81 | —12 | 1.04 | 1.22 | —.18 |
| Deaths. | 5 | 1 | +4 | .07 | .015 | +.055 |

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1928 (mid-year), based upon the federal census of 1920, has been used.

**DO NOT DESTROY.**

When you have no further use for this Circular give it to someone else.

# BOSTON HEALTH DEPARTMENT

# PNEUMONIA

## The Care of Pneumonia.

In pneumonia there is an inflammatory consolidation of the lungs. It may take place in scattered patches or may involve large portions of a lung. It causes a blocking of the passage of air and of blood through the affected parts. Pneumonia thus interferes with breathing. It also throws a strain on the heart because of the interference with the free passage of blood through the lungs. More serious still, though starting like diphtheria as a local infection, pneumonia produces a general bodily poisoning. Pneumonia is therefore to be regarded as a general as well as a local disease.

Various different bacteria are capable of causing a pneumonia. Among them are the so-called *pneumococci*, of which four different species or types have been recognized. Certain forms of streptococci and other common bacteria may also produce a pneumonia. The character of the consolidation in the lungs and other symptoms vary according to the bacteria which is causing the pneumonia. The *pneumococci* give rise to the form of pneumonia known as *lobar pneumonia.* While it is usually easy to recognize from the symptoms a lobar pneumonia caused by the pneumococci this is not always so. It may be impossible from the clinical symptoms to recognize the bacterial cause of a case of pneumonia and a pneumonia may be a mixed affair, as, for example, when a pneumonia results from a new infection complicating a

pre-existing bronchitis. A laboratory examination of the sputum may give help in determining the causative agent.

### The Treatment of Pneumonia.

Pneumonia, when it does not kill, is a self-limited disease. It oftens comes on suddenly and gives rise to most alarming symptoms which abruptly disappear after a few days. For this reason it has been a long and difficult matter to determine the value of the various sera and other methods of rational treatment which might be expected to have a specific effect in terminating or mitigating the course of the disease. The abrupt termination of alarming symptoms in cases of pneumonia has also made it possible for all sorts of charlatans to get popular credit for curing cases of pneumonia.

Some cases of pneumonia will recover regardless of what is done to them. Others are doomed to death from the start. It is never safe, however, to predict in any case what the outcome will be. The strong and vigorous may die and the frail and weak may unexpectedly recover. In a considerable proportion of cases, however, recovery or death is a matter of medical skill. In every suspected case of pneumonia, therefore, the best medical skill should be sought and secured quickly.

An essential to the success of any treatment is absolute rest and quiet and for this reason the removal of a patient from the place where he is taken sick is to be avoided if possible.

### Pneumonia is a Contagious Disease.

Any form of pneumonia is to be regarded as a contagious disease.

Nobody can develop pneumonia unless he has taken into his body through his mouth or perhaps his nose some of bacteria or "disease germs" capable of causing pneumonia. While persons sick with pneumonia furnish the great sources of supply of these germs they are distributed both by the sick and the well.

Not everybody who takes pneumonia germs into his

body immediately develops the disease. His body must be in a certain condition for pneumonia to develop. We have not as yet any means of telling definitely at any time whether a certain person will develop pneumonia or not if he takes pneumonia germs into his body.

Persons who are well and healthy may carry and grow pneumonia germs in their mouths and throats or noses indefinitely without suffering any harm therefrom or may carry them for a long time without harm and then suddenly develop pneumonia.

The pneumonia germ supply of a community probably comes chiefly from persons who are sick, but healthy persons are constantly swapping pneumonia germs around among themselves. The distribution of pneumonia germs is favored by the crowding of people in poorly ventilated spaces such as occurs here during the colder months of the year. It appears that the number of persons who are carrying pneumonia germs in their mouths or throats usually reach their maximum in our population in March. About the same time the number of actual cases of pneumonia reach their annual maximum.

If pneumonia germs were not being spread about in the community persons would not have pneumonia, not even those who may be debilitated from age or other cause. Anything, therefore, which can be done in a community to check the distribution of pneumonia germs is going to lessen the chances of "catching" pneumonia in that community. In cities, as Pittsburg, for example, when a systematic effort has been made to treat pneumonia as a contagious disease a surprising decrease in deaths from pneumonia has occurred.

Like other bacteria associated with infections of the nose and throat and upper respiratory tract, pneumonia germs are swapped about when people are crowded together and breathing air into which they are coughing and sneezing. Anything which tends to mitigate such situations interferes with the popular distribution of pneumonia germs. Individual beds in the home also serve to this end.

Of probably equally practical importance in the distribution of pneumonia germs is their conveyance to the mouth by handling food with contaminated fingers or by eating or drinking utensils, contaminated directly by secretions from other people's mouths or by being put through contaminated dish water. The distribution of pneumonia germs may thus be prevented by washing hands before eating or handling food and by washing or rinsing eating or drinking utensils in water hot enough to sterilize them. This applies to household dishwashing methods as well as public eating places and soda water and ice cream stands. Water in which one can place his hand is not hot enough to sterilize eating or drinking utensils.

### Precautionary Measures With Respect to Pneumonia Patients.

The patient should be given a room by himself. This should be done with view to securing rest and quiet for the patient and for the protection of the others from pneumonia germs.

All unnecessary furnishings should be removed from the room in order that the maintenance of cleanliness may be made as easy as possible.

Members of the family not needed to attend the patient should keep out of the room. The one or two attendants on the patient should wear a gown while caring for the patient and should remove it and wash hands before leaving the room.

Both pneumococci and streptococci may live for a considerable time outside the human body. Both may be recovered in a viable condition from the dry dust of rooms of patients infected with these organisms.

The floor and woodwork and furniture of a room occupied by a pneumonia patient should be cleaned daily with a cloth wet in a disinfectant solution or with a cloth wet in strong soap suds and afterwards boiled.

No cup, glass, spoon, fork, plate or other eating or drinking utensils used by the patient or in the patient's

room should be used by any other member of the family until after it has been sterilized in water actually boiling for at least ten minutes. It is advisable to keep a full equipment of eating and drinking utensils in the patient's room for his special use and wash them there.

Material coughed or spat up by the patient should be received in receptacles containing a disinfectant solution or in paper napkins or old pieces of cloth which should immediately be thrown into a disinfectant solution or collected in a paper bag and burned at once.

Bedding or clothing soiled by material coughed or spat up by the patient should be immediately wiped off by a cloth wet in a disinfectant solution which is then thrown into a receptacle containing such a solution.

Bedding or clothing thus soiled should be removed as soon as practicable and placed in a disinfecting solution pending thorough boiling and washing.

Blankets and other articles of bedding not easily washed should be protected by keeping them covered with sheets or other coverings which may be more easily washed. Everything washable in the room which may have been contaminated by material from the patient should be washed as soon as practicable in water actually boiling. In the meantime they may be kept wet in a receptacle containing a disinfectant solution.

A disinfectant solution for the purposes mentioned in the foregoing may be made by mixing compound creosol solution of the United States Pharmacopoeia with water in the proportion of two teaspoonfuls to a pint or five tablespoonfuls to a gallon of water, or by dissolving $7\frac{1}{2}$ grain standard corrosive sublimate tablets in water in the proportion of one tablet to a pint or eight tablets to a gallon of water.

Precautions with respect to the patient's sputum and room should be continued until coughing has ceased.

The precautions formulated in the foregoing are justifiable both in the interest of the public and for the protection of other members of the patient's household. These latter though they may not develop the disease themselves

become "carriers" of pneumonia germs and spread them about in public conveyances or other assemblages and in public eating places where the germs are picked up by susceptible persons who develop pneumonia and die. The germs of one of the most common types of pneumonia have never yet been found in the mouths of healthy persons except of those who have been in close contact with persons sick with this type of pneumonia.

Secondary cases of pneumonia are by no means uncommon in a household. They may occur weeks after the primary case. A member of the family who then picked up the germs and became a carrier finally for some reason or other may lose his resistance to active infection and develop pneumonia.

### Individual Protection Against Pneumonia.

Experiments have shown that it is possible to vaccinate persons so as to prevent them from developing pneumonia. Such protection, however, is not lasting and the different kinds of germs to be taken into account and other practical considerations have interfered with the more general application of a vaccination procedure.

The possibility of such protection is, however, to be remembered whenever a special reason for temporary protection against some form of pneumonia may appear to exist.

Nobody can develop pneumonia unless he has taken some kind or other of pneumonia germs into his body, and while we cannot tell whether any such individual will develop pneumonia or not, experience has shown that there are certain conditions which tend to make a person vulnerable to pneumonia germs. Among them are the following:

1. Any acute disease, especially one like measles or influenza involving the respiratory tract. Many cases of pneumonia follow colds.

2. Any chronic disease like diabetes or Bright's disease, or the ordinary infirmities incident to age.

3. Physical exhaustion from any cause, *e. g.*, overwork, worry, loss of sleep, etc.

4. Exposure to cold. The person who thinks he needs exercise and becomes fatigued with unaccustomed physical exertion and then gets chilled may develop pneumonia if exposed to any kind of pneumonia germs.

5. An abnormal condition of the respiratory tract from any cause whether from a cold, or from the inhalation of ether, or from getting water in the throat and lungs, as in case of a person rescued from drowning, or merely from living in the hot, dry atmosphere of steam heated apartments and offices.

6. Animal experiments also indicate that alcohol, even in moderate amounts, predisposes to pneumonia.

(5M.-1-31-'28.) CITY OF BOSTON
PRINTING DEPARTMENT

1503

MONTHLY BULLETIN

# HEALTH DEPARTMENT

CITY OF BOSTON

Rec'd OCT 10 1928 B. P. L.

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the EDITOR MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

VOL. 17. BOSTON, NOVEMBER, 1928. NO. 11

## THE PROBLEM OF THE CONTROL OF THE ACUTE DISEASES OF THE RESPIRATORY TRACT.

In point of view of economic importance the outstanding health problem in our region today is the prevention of acute diseases of the respiratory tract.

The seriousness of this matter does not begin to be indicated by statistical data. The clinical history of a "cold" may not end with death from pneumonia or from meningeal infection or with return to work. Blindness, deafness, a crippled heart, a damaged kidney and probably, also, any of the chronic abdominal infections giving rise to what are catalogued as "digestive diseases" may be the indirect consequence of an "ordinary cold." There may well be, also, as some believe, a definite relation between the problem of "colds" and the prevention of premature deaths from cardio-vascular degeneration.

Mortality and disability from tuberculosis are still a serious matter. Tuberculosis has, however, been steadily decreasing in economic importance for many years, because of the immunization of our population through the operation of a biological law. By a similar natural process, diphtheria and scarlet fever, which once served as excuses for the existence of Boards of Health, have become negligible factors in our mortality rates.

Artificial measures of protection have made the control of smallpox and of typhoid fever a practicable proposition for any community. In Massachusetts safe public water supplies, sanitary provisions for the disposal of wastes, the suppression of flies, the pasteurization of milk, the supervision over the manufacture and sale of foodstuffs are constantly operating to lower mortality and disability from infections of the digestive tract.

Cancer, which takes its toll largely from those whose life's work has ended or is nearing an end, has so aroused public interest in this state that special laws and appropriations have been made for its control.

Appreciation of the importance of cardio-vascular degeneration is reflected in organized efforts to induce the public to accept periodic "health examinations" as a remedy.

In view of the conspicuous interest and activity exhibited in the protection of health in other directions, it would seem pertinent to ask, as we have been asked, why nothing has been done to check the enormous economic losses from "colds" and other acute diseases of the respiratory tract.

The annual total of absenteeism and disability from such causes in our industries today is certainly no less than a generation ago and stands out in striking contrast to the accomplishments in increasing industrial efficiency in other respects.

The World War acted as a tremendous stimulus to human endeavor. In various directions, and in ways both desirable and undesirable, human activities today are running under the momentum of the mental energy which that struggle aroused.

In the last twelve years the art of navigation has been revolutionized. In these few years more has been done to reduce marine risks than from the days of Columbus down to the time when the Germans began their submarine operations.

Similar developments have been witnessed in the field of industrial chemistry. Rayon and duco are but two of the many practical benefits of the more effective direction of chemical research.

Developments of the principle of the internal combustion engine, new appliances for handling high-pressure steam, the use of powdered fuel, the low temperature distillation of coal, have all served to secure a degree of efficiency in the generation of power that seemed impossible a few years ago.

In the same time, wireless telephony, a scientific curiosity a short while ago, has become our popular radio. In connection therewith new inventions have come out with a frequency that has often made a radio supply dealer's stock obsolete and worthless before it could be sold.

The World War gave, also, a very definite impetus to developments in surgery and psychiatry of an eminently practical character. It is claimed that there are less than 3 per cent of deaths in major operations now in contrast to 18 per cent eleven years ago.

While the stimulus of military need on medical progress may not be so apparent in recent therapeutic developments, there probably has been no other equal period of time in which two such important innovations in the treatment of disease have appeared as the use of insulin for diabetes and of liver for pernicious anemia.

In the prevention of disease, however, in preventive medicine, so called, in biological discoveries, and even in the practical utilization of biological knowledge already available, progress has apparently lagged.

The outstanding accomplishment of preventive medicine in the World War was the control of typhoid fever, but the method by which success was attained was developed by the Boer War. The checking of military ineffectiveness from other gastro-intestinal infections and from malaria, and the lessening of mortality from tetanus, were likewise due to procedures which were old.

The menace of cerebro-spinal meningitis and the horrible mortality from influenza failed to bring out anything in the way of procedure or inventions comparable with the devices which made submarine warfare practically a failure. Even the plain lesson that the mortality from influenza was increased by putting patients in wards with cases of pneumonia was generally neglected, as it has been ever since.

The World War engendered widespread extravagance, private and public. Projects having in view the promotion of human welfare have since received philanthropic endowments and public appropriations with a lavishness undreamed of a generation ago.

Where economic conditions have been favorable there may be pointed out a reduction in mortality and morbidity from some causes, in some age groups of certain social strata. If, however, a reasonable allowance be made for improved economic conditions, for increased purchasing power of the average family income, for the extension to more people of the long-recognized benefits to be derived from a safe public water supply, from a sewerage system, from the pasteurization of milk, the screening against flies, and for decrease in mortality from tuberculosis, diphtheria and scarlet fever through a process of natural immunization, there really remains little in the way of tangible results of activities for the promotion of public health to be credited to recent biological discoveries or to new methods of procedure that have originated in the last fifteen years.

The question which this article endeavors to answer is further coupled with an allegation that, in contrast to what is to be seen in the field of mechanical progress, clear thinking does not characterize efforts to meet biological problems in which human life and health are directly concerned.

The following specifications have been presented: A solution of the puzzle of the spread of poliomyelitis is being impeded by the insistence that nasal secretions are responsible for its spread in spite of experimental evidence also, that intestinal secretions are likewise infective, and in disregard of the fact that epidemics of this form of paralysis cease just at the season of the year when diseases known to be spread by nasal secretions begin to become common.

It is presumed that bovine tuberculosis can be eradicated by killing "reactors," notwithstanding steadily increasing evidence that the avoidance of opportunities for infection is practically impossible. It is alleged that a more logical procedure would be to try to utilize cattle who recover from infection and have ceased to be "reactors" to develop strains of cattle more resistant to tuberculosis, thus imitating the natural process which has tended to produce immunity in the human race.

An elaborate and expensive project to collect data with view to finding a possible relation between the incidence of common contagious diseases and variations in the dust content of the atmosphere does not indicate the same sort of a directing intelligence as that which solved the ventilation problem of the Holland tunnel. For reasons already understood these diseases in their prevalence follow regular annual curves with a seasonal maximum, and as there are presumably seasonal variations in the dust content of the atmosphere, coincidences are probably demonstrable. In no conceivable manner, however, could such a demonstration serve to prevent or control such diseases as chicken-pox, measles and erysipelas, which it is proposed to investigate in this way.

Those who can see in the present situation with respect to acute diseases of the respiratory tract only a cause for complaint may be reminded that an improvement in the situation is not being reserved as the special privilege of any particular individuals or groups. Further bacteriological or biological discoveries which might serve to make the control of infections of the respiratory tract easier are urgently needed, but faultfinders may be reminded that it is quite possible to reduce the present economic losses from such diseases by a consistent utilization of knowledge already available.

Acute diseases involving the mucous membrane of the nose, throat or lungs may be produced by various agencies. Some infec-

tive bacteria which may be responsible have been identified. Probably others, likewise capable of doing so, have not. Among the latter is perhaps a specific agent, suspected of being a "filterable virus," which may cause a common form of a so-called "cold."

Protein reactions, or mucous membrane manifestations of protein sensitivity, of which "hay fever" is but one example, may clinically resemble an acute bacterial infection of the mucous membrane. A protein reaction may pave the way for bacterial infection. There is, apparently, a relation not yet understood between the phenomena of protein sensitiveness, or "idiosyncrasy" and bacterial infection, or susceptibility to infection, besides that implied in the recent distinction between "antigens" and "haptens." A better understanding of this matter might help the development of new methods for the control of diseases of the respiratory tract.

Potentially infective bacteria may be found on both a normal and an abnormal mucous membrane. Several different kinds may be present. While the abundance of some one kind may be significant, the power of any organism to do harm depends upon the person's susceptibility to deleterious action by that particular organism.

Various factors, some of which are not yet understood, determine a person's susceptibility. Absolute immunity to certain potentially infective agents may exist, but what may appear to be an immunity is often really a high degree of resistance which may be overcome by a greater dosage of the infecting organisms or by an increase in that intrinsic quality which is referred to as "virulence."

There are several different ways in which diseases of the respiratory tract might conceivably be controlled, or at least mitigated in importance. By immunizing against infective agents, either artificially or naturally; by preventing loss of a person's natural resistance to infection; by preventing exposure to infecting agents or by reducing their possible dosage; or by the maintenance of an environment unfavorable to their virulence.

Attempts to prevent diseases of the respiratory tract by producing immunity artificially through methods of vaccination have attained a noteworthy degree of success. Success has been favored by the fact that certain common bacteria whose characteristics and habits are now fairly well known are chiefly accountable for what are referred to as recurrent colds and other persistently troublesome manifestations of infection. Within the category of common parasitic bacteria may be placed the pneumococci and various streptococci which, under certain conditions, are capable of producing dangerous diseases of the respiratory tract.

Bacteria belonging to this class, of which pneumococci and certain streptococci are examples, may originate a dangerous infection,

but the body possesses normally a high degree of resistance to their infective action and they usually become dangerous, after some recognizable condition, local or constitutional, has broken down resistance to their infective invasion.

The mortality from influenza is not caused by the as yet undiscovered infective agent of that disease, but by the pneumococci or streptococci which appear as secondary invaders. An uncomplicated influenza presents no catarrhal symptoms.

While it might be better if methods could be found to vaccinate directly against influenza, the measles or a "cold," the prevention of their dangerous secondary infections might prove nearly as serviceable for practical purposes.

In its actual application, however, the methods of vaccination against the organisms involved in the more serious aspects of respiratory diseases has marked limitations. Vaccination may fail to produce immunity for reasons apparently explained by bacteriological hypotheses, and for other reasons that are not. The most disappointing feature of this procedure up to the present, however, has been the transitory character of the protection thus secured. A brief period of immunity is also characteristic of that produced by recovery from actual infection with bacteria concerned in diseases of the respiratory tract. Why deaths in Boston fom the influenza in 1918 were extremely rare in persons over fifty years of age and very numerous in the 1889 epidemic has not been explained.

Procedures which offer promise of success in preventing loss of natural resistance to diseases of the respiratory tract likewise encounter practical obstacles. The constancy with which persons come down with colds and perhaps serious complications on returning to civilization, physically strong and vigorous, after a period of life in the open, suggests the possibility that immunity to the infective organisms involved tends to disappear with freedom from exposure. However this may be, long and practical wholesale experience with human beings under actual living and working conditions has shown that the development of serious diseases of the respiratory tract are favored, by physical abnormalities of the nose, mouth or throat, by local irritation of the mucous membrane from dust or other mechanical cause, by the hot, excessively dry, steam-heated atmosphere of popular human habitations today, and even by the washing out of the normal, naturally protective secretions.

A reflex vaso-motor reaction causing an interference with the blood supply of the mucuous membrane, and a consequent vulnerability to such bacteria as happen to be present, serves as a plausible explanation of the liability of a "cold" or more serious infection to

follow a chilling of the body, especially when localized by a "draft." The less generally recognized liability of infection to follow fatigue or physical exhaustion still awaits a specific explanation.

Because of a relationship which is also obscure, resistance to infection may be broken down by various constitutional conditions and by dietary habits, including perhaps too large an intake of sugar.

From the foregoing, it would appear, therefore, that any marked degree of success in controlling respiratory diseases by preventing the breakdown of personal resistance calls for greater cooperation on the part of individuals than they have as yet shown a disposition to give.

That lack of ventilation may be productive of disease of the respiratory tract has been fully proved in human experience. Exposure to bad ventilation is, however, not necessarily followed directly by respiratory disease, and "scientific experimentation" with air which has passed through human lungs has led to conclusions suggestive of General Brooke's process of reasoning, that a contaminated well at Chickamauga was not causing typhoid fever because he had drunk the water himself without ill effects.

Bad ventilation may have effects which cannot be obviated by setting the air in motion and lowering its temperature.

Pathogenic organisms make "bad air dangerous." The exposure of culture plates to the forcibly expired breath serves to demonstrate one way in which such organisms may be distributed, but the air-borne implantation of bacteria on a specially prepared culture plate is a different proposition from grafting them into a living mucuous membrane. When carriers of pathogenic organisms are crowded in confined spaces with other persons, the extent of the danger will, presumably, depend upon the susceptibility of those exposed to infection, together with such other factors as the dosage received, opportunities for contact and for the conveyance of infective material. As a general principle, the danger and the rapidity of the spread of any infection among susceptible human beings is *directly proportional to the amount of the bodily secretions containing infective organisms.* Cold weather causes an increased amount of secretion from the nose, both directly and because of an increased lachrymal secretion flowing into the nose.

Patients free from hemolytic streptococci have soon acquired them after admission to hospital wards where carriers were present. Viable pneumococci and streptococci may be found in the floor dust in such wards. Air-borne infection with pathogenic bacteria unquestionably occurs. Hospital experience with communicable disease has, however, shown that the mechanical transference of infective

material by hands or eating or drinking utensils, because of slips on the part of the human machinery designed to prevent such occurrences, is usually accountable for so-called "cross infections."

The most notable success in preventing, for considerable periods of time, disability from acute diseases of the respiratory tract in large groups of human beings has come from applying the principles of cleanliness to them in their living conditions. It is the same idea which underlies success in the wholesale raising of animals. Special adaptations of the idea have made modern surgery possible. Cleanliness means the lessening of opportunities for distributing infective material. It comprises measures calculated to destroy such material or dilute it, and thus reduce the dosage or virulence of the pathogenic organisms to such an extent as to render them practically harmless.

When the occupants of a given dormitory space, on shipboard or in barracks, are allowed to exceed a certain number, which may be experimentally determined for any particular quarters, troubles with the respiratory tract will immediately appear among them. In addition to facilitating the distribution of infective organisms, practical experience indicates that crowding and poor ventilation act slowly and insidiously to lower resistance to infective agents and their poisonous products.

If men spend the greater part of their time in the open air they are less likely to show affections of the respiratory tract from poorly ventilated sleeping quarters or other places where they may pass the smaller part of their time.

The health of men will be better if their dormitory quarters are vacated and aired out during the day.

If a practice of washing the floors of dormitories daily is begun, a decrease in respiratory affections may be expected to follow.

Various infections of the respiratory tract of an epidemic character may be spread by eating and drinking utensils.

Such epidemics will promptly disappear when effective measures are taken to sterilize mess gear.

The foregoing observations have been repeatedly utilized in the last one hundred and fifty years to lessen disability from acute respiratory affections among considerable aggregations of human beings under military or institutional control. From such successful experiences it may be possible to deduce certain essentials to success which may be utilized as the basis of some more practicable procedure for checking the economic loss from acute respiratory diseases in the population at large.

In connection therewith, the following observations may, perhaps, be profitably taken into account.

An investigation undertaken by the United States Public Health Service, and covering the whole country, showed that for a certain social class, at least, "colds" reached their maximum early in the autumn, with a marked secondary rise about the first of the year. Probably this would hold good for the whole population. It may be significant that the 1918 influenza epidemic reached its peak in the autumn and showed a marked rise again early in January. Absenteeism from industry, because of diseases of the respiratory tract, however, regularly reaches its maximum in this region in March. This maximum appears to come about when (possibly a little before) the proportion of carriers of hemolytic streptococci and pneumococci in the groups which have been examined throughout the year over a period of years reach their annual maximum.* Further evidence might be cited to indicate that the economic loss is largely caused by the class of infective organisms previously referred to as secondary invaders. It would also appear that our living habits during the colder months of the year not only favors the distribution of pathogenic organism, but tends to lower the average individual resistance to infection and to the products of infection.

The foregoing, of course, shows, with respect to certain apparently important matters, an unsatisfactory state of knowledge which renders procedures for the control of respiratory infections more or less difficult to carry out, and often impracticable. It does not necessarily follow, however, that a special, highly technical training is necessary to enable somebody to point out some as yet unrecognized relation of cause and effect, or to suggest some working device which will make the prevention of respiratory infections a simpler proposition than at present.

The recognition of a fundamental truth which has marked an important step in the promotion of human welfare has seldom, if ever, come directly from an elaborate and expensive attempt to accumulate new information. Discoveries of the greatest benefit to mankind have rather been the product of the brains of men who, like Galileo and Newton, or Harvey, Jenner, Pasteur, Manson or Reed, could see in matters of common knowledge what others failed to perceive.

A further incentive to turn from cynical criticism to constructive effort is to be found in an apology Dr. Ochsner, the surgeon, once made when he ventured to advise outside his own special field.

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* See Boston Health Department Bulletin — Vol. 16 — No. 9 — September, 1927.

He observed that "most of the great scientific and medical truths have been discovered not by specialists in their own field, but by men outside the specialties; thus the law pertaining to the conservation of energy was not discovered as one would naturally suppose by a physicist, but by a physician; bacteriology, the very foundation of modern medicine, was given its first start not by a pathologist, but by a botanist; the spirillum of cholera and the tubercle bacillus were discovered not by a pathologist, but by a country practitioner; the first great work in Agricultural Chemistry was written, not by a professor of agriculture, but by a physiological chemist."

If Dr. Ochsner had been speaking today and discussing the relation of cleanliness to the prevention of infection, he might have gone on to point out that the popularizing of the deep post-hole latrine which is doing more to prevent typhoid fever, hookworm disease and dysentery in the Far East than costly intensive health campaigns have succeeded in accomplishing, was the idea, not of a doctor of public health, but of a Dutch plantation overseer. The spread of respiratory diseases is likewise largely a matter of the distribution of infective material.

It would be of equal economic benefit in our own region if someone should devise a sanitary household dishwashing device of such practical merit that it would become as popular in the home as a radio set. Surgical cleanliness with respect to eating and drinking utensils will not in itself solve the problem of control of diseases of the respiratory tract either alone or combined with clean hands. Surgical technique has distinct practical limitations in ordinary human activities and intercourse. Even in the operating room, masking has been found necessary. Nature conserves life by providing a means of defense against hostile agencies rather than by avoiding them. Safety may be obtainable by evading the pneumococcus and hemolytic streptococcus, but, as usually encountered, nature's means of defense renders them and other common pathogenic bacteria practically harmless. It is only when a person's normal resistance breaks down that they become dangerous. An individual appears to be capable of enduring even a focal infection without appreciable harm until "something lets go." It is conceivable that the normal defense against common pathogenic bacteria may be maintained in some simpler way than bacteriological hypotheses indicate. It is not beyond the realm of possibility that a discovery marking a new epoch in the control of diseases of the respiratory tract will some day be made, not by a bacteriologist but by a physiologist in the field of nutrition.

## VITAL STATISTICS FOR MEDICAL MEN.

*(The following notes are a continuation of the series by Dr. Frederick L. Hoffman, consulting statistician, that began in the November, 1927, issue of the "Bulletin." As explained at that time, these notes will be so written as to make them readable and attractive to medical men, public health workers and laymen, and in such a manner that they will show their direct relation and value to the prevention of disease and prolongation of life.)*

### Environment and Mortality.

It requires no statistics to prove that the environment of human beings has a direct bearing on the death rate from particular diseases. But it is of the utmost importance to ascertain for certain diseases the local degree of incidence and to ascertain the causes or conditions responsible for their possible excessive occurrence. The environment of all large communities is first expressed in density of population. Density unquestionably has a direct bearing upon the high incidence of certain infections which are transmissible from person to person as the result of contact. But the environment in large urban centers is also affected by certain physical factors, such as the water supply or the milk supply, which may be derived from contaminated sources. The control of such sources is, of course, largely a public health function, but the calculation of localized death rates is not always easy. Ward populations change rapidly from year to year and long census intervals often preclude accurate estimates. The variations in local incidence are perhaps best illustrated by those of Greater London, which should be sufficient for the present purpose.

Thus, for illustration, while the average death rate from measles for all London was 0.20 per 1,000, it was as high as 0.36 for Bethnal Green in the east end and as low as 0.08 in the borough of Woolwich in the south end. While for diphtheria the average death rate was 0.12 per 1,000, it was as high as 0.34 in the borough of Bermondsey, and as low as 0.06 in the borough of Finsbury in the central part of London. While the average death rate from phthisis was 0.88 per 1,000, it was as high as 1.25 in the borough of Shoreditch in the eastern part of London, and as low as 0.58 in the borough of Hampstead in the north. The cancer death rate, averaging 1.46 per 1,000 for the whole of London, was as high as 1.91 in the borough of Kensington in the west of London, and as low as 1.17 in the borough of Shoreditch in the east.

### Time of Death.

Physicians often omit to give the time of death on the death certificate, assuming, no doubt, that the information has no medical value. Many studies have been made of the possible influence of the time factor due to conditions as yet but imperfectly understood,

and much more information will be required before definite conclusions can be arrived at. Information is available as regards the time of death in cancer for the City of Boston for the five years ending with 1924. During this period there were 2,599 deaths from cancer for which the time of death was given, while for 2,701 deaths the information had been omitted. To this extent, therefore, accuracy of conclusion was impaired by failure to meet the requirements of the standard death certificate. The 2,599 deaths were distributed by hours of the day as follows: Between 1 and 3 a. m. there occurred 11.8 per cent; 4 and 6 a. m., 12.2 per cent; 7 and 9 a. m., 11.7 per cent; 10 and 2 a. m., 12.5 per cent. Thus showing the first half of the day there occurred 48.2 per cent of the total number of deaths from cancer for which information was available. Between 1 and 3 p. m. there occurred 13.6 per cent; 4 and 6 p. m., 14.2 per cent; 7 and 9 p. m., 12.2 per cent and 10 and 12 p. m., 11.9 per cent, a total of 51.9 per cent, suggestive of a practically even distribution throughout the day, although the largest proportion of deaths occurred between 4 and 6 p. m.

For purpose of comparison, the corresponding statistics for San Francisco may be of interest. These are for the period 1920–1923, representing 2,861 deaths from cancer for which the information was available, but for 236 deaths the information had been omitted from the certificate. During the period between 1 and 3 a. m. there occurred 11.3 per cent; 4 and 6 a. m., 12.3 per cent; 7 and 9 a. m., 13.5 per cent; 10 and 12 a. m., 13.1 per cent. Thus, during the first half of the day, there occurred 50.2 per cent of the deaths from cancer, which practically corresponds to the figures for Boston. During the remainder of the day, or from 1 to 3 p. m., there occurred 13.2 per cent; 4 to 6 p. m., 12.2 per cent; 7 to 9 p. m., 12.7 per cent and 10 to 12 p. m., 11.8 per cent. Thus an aggregate of 48.9 per cent of the deaths from cancer occurred during the second half of the day, against 50.2 per cent during the first half. In San Francisco, the largest proportion of deaths occurred from 7 to 9 a. m. or 13.5 per cent against 4 to 6 p. m. or 14.2 per cent for Boston.

The foregoing will be sufficient to emphasize the practical importance of accurate information regarding the time of death which may yet be utilized to good advanatge in safeguarding the interests of the patient.

There is also a legal aspect to this question, since occasionally in the case of litigations the precise time of death may be a matter of considerable importance. Physicians, therefore, cannot be too strongly urged to fill out the certificates completely in this respect in the furtherance of scientific research of possibly far-reaching value.

*(To be continued.)*

## SUMMARY OF WORK, OCTOBER, 1928.

### ADMINISTRATION DIVISION.

| | | | |
|---|---|---|---|
| Prosecutions ordered | 5 | Personnel: | |
| Legal notices | 182 | Transfers | 2 |
| Lying-in-hospital approved | 1 | Appointment, provsional | 1 |
| Hearing | 1 | Leave of absence extended | 3 |
| Settlements: | | Resignation | 1 |
| Total cases | 161 | Promotion | 1 |
| Notices | 141 | Attendance at convention | 3 |
| Bills | 20 | Budget transfer | 1 |
| | | Removal from office | 1 |

### LICENSES, PERMITS, ETC., ISSUED.

| | | | |
|---|---|---|---|
| Burial permits | 1,114 | Pedlers | 29 |
| Day nursery | 1 | Pasteurization of milk licenses | 25 |
| Denatured alcohol | 61 | Garbage transportation | 2 |
| Hen licenses | 49 | Undertakers | 2 |
| Manicure-massage | 53 | Undertaker's license canceled | 1 |
| Stable permit, temporary | 1 | Beverage license revoked | 1 |
| Milk | 133 | Garbage transportation license refused | 1 |

### MEDICAL DIVISION.

| | | | |
|---|---|---|---|
| Reported cases | 928 | Visits: | |
| Nonresidents | 60 | By V. D. investigator | 311 |
| Deaths investigated | 23 | By medical inspectors | 232 |

### BACTERIOLOGICAL LABORATORY DIVISION.

| | |
|---|---|
| Diphtheria | 556 |
| Tuberculosis | 431 |
| Typhoid | 44 |
| Gonorrhea | 895 |
| Gonorrheal ophthalmia | 93 |
| Syphilis | 1,169 |
| Other examinations * | 334 |
| Bacteriological examinations of milk | 515 |
| Bacteriological examinations of ice cream | 67 |
| Milk bottles examined | 52 |
| Caps for milk bottles examined | 156 |

* Test for virulence, 2; paratyphoids, 2; Vincent's angina, 3; urines, 224; feces for B. Typhosus, 33; urines for B. Typhosus, 33; ice for B. Coli, 6; dark field, 7; eclairs for B. Coli, 29; genito urinary T. B., 15; ham bones for contamination, 1; cloth sack for dirt, 1:

### FOOD DIVISION.

#### SURVEY OF THE QUALITY OF MILK SOLD BY BOSTON WAGON DEALERS AND CHAIN STORES.

The following is a result of a survey made of milk sold in Boston by wagon dealers and chain stores during October, 1928. Massachusetts statute law requires not less than 12 per cent milk solids

and not less than 3.35 per cent milk fat; for bacteria, it is required that it contain per cubic centimeter not more than 100,000 in pasteurized milk and in raw milk, and not more than 10,000 in certified milk.

### Key to Kind of Milk.

P Means pasteurized milk.

C Means raw certified milk, the only kind sold by this dealer.

R Means raw milk from accredited herds of tuberculin tested cows, the only kind sold by this dealer.

| Name of Dealer. | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|
| Allen, Fred H. | P | 12.61 | 3.90 | 28 |
| Antetomasso, Peter | P | 12.77 | 4.02 | 17 |
| Barron, C. W. | C | 13.70 | 4.60 | 10 |
| Bolio, William | R | 11.42 | 3.30 | 15 |
| Brandley, F. J. & P. J. | R | 12.62 | 3.91 | 34 |
| Casey, James | P | 12.49 | 3.87 | 28 |
| Cashin, James F., & Co. | P | 12.78 | 3.98 | 21 |
| Cedar Hill Farm, Inc. | C | 13.05 | 4.20 | 10 |
| Chapin, George L. | P | 12.64 | 3.90 | 22 |
| Clapp, Frank L. | P | 12.68 | 3.80 | 20 |
| Clark, Levi | P | 12.10 | 3.50 | 18 |
| Corkery, John J. | P | 12.58 | 3.87 | 38 |
| Cosgrove, Martin S. | P | 12.88 | 4.10 | 17 |
| Cummings, Francis S., Company | P | 12.48 | 3.71 | 16 |
| Daley, John | P | 12.71 | 3.92 | 17 |
| Dean, Louis W. | P | 13.52 | 4.20 | 17 |
| Denehy, Timothy | P | 12.40 | 3.60 | 12 |
| Deerfoot Farm Company | P | 12.81 | 4.10 | 21 |
| Driscoll, William B., Company | P | 12.53 | 3.78 | 17 |
| Elm Spring Farm Company | P | 12.39 | 3.75 | 40 |
| Edgerly, Frank S. | P | 12.68 | 4.05 | 23 |
| Ferguson, Malcolm D. | P | 12.58 | 3.70 | 21 |
| Garfield, Mason | R | 14.95 | 5.75 | 12 |
| Garvin, Charles E. | P | 15.03 | 5.70 | 34 |
| Giroux, J. E. & H. J. | P | 12.62 | 3.80 | 42 |
| Griffin, Joseph L. | P | 12.72 | 3.72 | 17 |
| Gushee, Chester W. | P | 12.85 | 4.01 | 25 |
| Herlihy Brothers, Inc. | P | 12.53 | 3.84 | 156 |

| Name of Dealer. | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria, Thousands in one Cubic Centimeter. |
|---|---|---|---|---|
| Hickey, James B. | P | 12.30 | 3.80 | 19 |
| Holden, John E. | P | 12.64 | 3.93 | 20 |
| Hood, H. P., & Sons, Inc. | P | 12.51 | 3.85 | 17 |
| Hutchinson, Frank T. | P | 12.59 | 3.80 | 22 |
| Jones, William T., Company | P | 12.85 | 4.10 | 33 |
| Kendal Brothers | P | 12.70 | 3.91 | 24 |
| Kingston, Samuel | P | 12.77 | 3.85 | 75 |
| Knapp, George J. | P | 12.69 | 4.03 | 25 |
| Lang Brothers | P | 12.45 | 3.85 | 30 |
| Larsson, Charles | P | 12.45 | 3.77 | 39 |
| Ludwig Brothers | P | 12.94 | 3.95 | 32 |
| Lyndonville Creamery | P | 13.04 | 4.20 | 20 |
| Manning, Harriet | P | 12.60 | 3.80 | 58 |
| McAdams, J. F., & Brothers, Inc. | P | 12.86 | 4.04 | 23 |
| McKernan, James | P | 12.51 | 3.90 | 42 |
| Munchback, Albert | P | 12.85 | 3.98 | 46 |
| New England Creamery Products Company | P | 12.83 | 4.03 | 19 |
| Pine Grove Dairy, Inc. | P | 12.73 | 3.78 | 15 |
| Robinson, A. J. | P | 12.98 | 4.05 | 35 |
| Schuster, Adam | P | 12.82 | 4.03 | 22 |
| Seven Oaks Dairy Company | P | 12.58 | 3.84 | 21 |
| Shick, Jacob | P | 12.16 | 3.58 | 62 |
| Somerset Farms Creamery Company | P | 13.01 | 4.20 | 14 |
| Sterling Farms Milk Company | P | 12.62 | 3.81 | 24 |
| Stone, H. L. | P | 12.36 | 3.75 | 21 |
| Stuart, W. E. | P | 12.72 | 3.97 | 17 |
| Turner Center System | P | 12.46 | 3.82 | 32 |
| United Farmers Co-operative Creamery Company | P | 13.04 | 4.16 | 23 |
| Vartanian, K. | P | 12.62 | 3.95 | 39 |
| Vartanian, S. | P | 12.30 | 3.70 | 18 |
| Walker Gordon Laboratory Company | C | 12.44 | 3.95 | 8 |
| Weiler, E., & Sons | P | 12.89 | 4.18 | 21 |
| Westwood Farms Milk Company | P | 12.49 | 3.85 | 23 |
| White Brothers | P | 12.77 | 3.88 | 20 |
| Whiting Milk Companies | P | 12.56 | 3.78 | 20 |
| Whittemore, W. D. | P | 13.02 | 4.08 | 18 |
| Williams, Edward C. | P | 12.96 | 4.40 | 15 |
| Wiswall, Granville A. | P | 12.55 | 3.83 | 25 |
| Woodland, Charles L. | P | 12.79 | 3.93 | 22 |

## CHAIN STORE MILK.

| Name of Dealer. | Supplied by | Kind of Milk. | Solids. Per Cent. | Fat. Per Cent. | Bacteria, Thousands in One Cubic Centimeter. |
|---|---|---|---|---|---|
| The Great Atlantic & Pacific Tea Company. | Hood, H. P., & Sons, Inc., | P | 12.63 | 3.98 | 16 |
| Brown, M., & Sons..... | Whiting Milk Companies, | P | 12.33 | 3.70 | 25 |
| Cloverdale, The, Company, | Turner Center System... | P | 12.45 | 3.83 | 16 |
| Economy Grocery Stores Company. | Whiting Milk Companies, | P | 12.37 | 3.70 | 14 |
| First National Stores, Inc., | Bellows Falls Co-Operative Creamery. | P | 13.06 | 4.13 | 21 |
| Morgan Bros. Company... | New England Creamery Products Company. | P | 12.80 | 4.00 | 22 |
| Winer, M., Company..... | M. Winer Company..... | P | 12.98 | 4.00 | 15 |

## MILK INSPECTION — SAMPLES EXAMINED.

Chemical:

| | |
|---|---|
| Milk from wagons | 325 |
| Milk from stores | 600 |
| Milk brought by citizens | 18 |
| Vinegar | 53 |
| Bread | 1 |
| Water | 3 |
| Flour | 1 |
| Evaporated milk | 1 |
| Eclairs | 4 |
| Cloth | 1 |
| Olive oil | 1 |
| Peas | 1 |
| Canned salmon | 1 |
| Steel wool | 1 |
| Miscellaneous | 1 |
| Miscellaneous examinations | 16 |
| Samples referred to Bacteriological Laboratory for examination | 790 |

## DAIRY DIVISION.

| | | | |
|---|---|---|---|
| Total services | 1,261 | Total cattle inspected | 10,600 |
| Dairies inspected | 751 | Inspections of milk plants and licensed dealers | 261 |
| Scoring above 50* | 572 | Bacteriological examinations | 143 |
| Scoring below | 179 | Country creamery inspections | 6 |
| With milk rooms | 580 | Sediment tests | 71 |
| Without milk rooms | 171 | | |
| Inactive | 23 | | |

* Passable mark.

## FOOD INSPECTION DIVISION.

### OCTOBER, 1928.

| | |
|---|---|
| District inspections | 2,028 |
| Reinspections | 351 |
| Market inspections | 972 |
| Terminal inspections | 922 |
| Vehicle inspections | 4,665 |
| Stand inspections | 1,033 |
| Complaints | 41 |
| Notices to abate | 247 |
| Case in court | 1 |
| Default | 1 |
| Hours in court | 12 |
| Hours special duty | 348 |
| Samples taken | 64 |
| Condemnations | 62 |
| Telephone | $9.40 |
| Carfare expense | $33.60 |
| Miscellaneous | $1.60 |

## SAMPLES TO LABORATORY.

### BACTERIOLOGICAL.

| | |
|---|---|
| Corned ham | 1 |
| Cream filling | 12 |
| Ingredients for ice cream | 6 |
| Mushroom | 1 |
| Eclairs | 21 |
| Smear | 1 |

### CHEMICAL.

| | |
|---|---|
| Bread | 1 |
| Smears | 2 |
| Flour | 1 |
| Olive oil | 1 |
| Salmon | 1 |
| Peas | 1 |
| Cake | 1 |
| Eclairs | 4 |

### CONDEMNATIONS.

| | | | |
|---|---|---|---|
| Meat | 744 pounds | Groceries and miscellaneous | 76 pounds |
| Vegetables | 1,919 pounds | Dairy products | 15 pounds |
| Fruits | 19,868 pounds | | |
| Marine products | 74 pounds | | |

## MARKET, STORE AND RESTAURANT DIVISION.

### CONDEMNATIONS.

| | | | |
|---|---|---|---|
| Meat | 744 pounds | Groceries, etc. | 76 pounds |
| Vegetables and fruit | 21,787 pounds | Dairy products | 15 pounds |
| Fish | 74 pounds | | |

| | | | |
|---|---|---|---|
| District inspections | 2,028 | Notices served | 247 |
| Reinspections | 351 | Case in court | 1 |
| Markets | 972 | Default | 1 |
| Terminals | 922 | Samples taken | 64 |
| Vehicles | 4,665 | Samples referred for chemical and bacteriological examinations | 54 |
| Street stands | 1,033 | | |
| Complaints | 41 | | |

## ABATTOIR DIVISION.

| | | | |
|---|---|---|---|
| Cattle inspected | 4,256 | Parts condemned (lbs.) | 20,457 |
| Calves inspected | 4,119 | Animals condemned | 59 |
| Swine inspected | 5,249 | | |

## SANITARY DIVISION.

| | | | |
|---|---|---|---|
| Original inspections | 3,417 | Complaints investigated | 473 |
| Reinspections | 6,768 | Court cases authorized | 6 |
| Legal notices served | 167 | Nuisances abated | 1,757 |

## TUBERCULOSIS DIVISION.

| Districts. | Number of Clinic Sessions. | Total Number of Cases at Clinics. | | | Total Number of New Cases at Clinics. | | |
|---|---|---|---|---|---|---|---|
| | | Adults. | Children. | Total. | Adults. | Children. | Total. |
| South End | 19 | 123 | 78 | 201 | 27 | 26 | 53 |
| East Boston | 14 | 97 | 111 | 208 | 15 | 12 | 27 |
| North End | 13 | 28 | 57 | 85 | 9 | 16 | 25 |
| West End | 13 | 51 | 44 | 95 | 13 | 4 | 17 |
| South Boston | 13 | 85 | 70 | 155 | 16 | 29 | 45 |
| Boston Dispensary | 13 | 58 | 30 | 88 | 11 | 6 | 17 |
| Brighton | 10 | 18 | 8 | 26 | 2 | — | 2 |
| Charlestown | 8 | 21 | 13 | 34 | 3 | 1 | 4 |
| Codman square | 8 | 100 | 40 | 140 | 15 | 10 | 25 |
| Hyde Park | 9 | 33 | 39 | 72 | 2 | 7 | 9 |
| Totals | 1,104 | 614 | 490 | 1,104 | 113 | 111 | 224 |

| Districts. | Von Pirquet. | Wassermann. | Lamp. | X-Ray. |
|---|---|---|---|---|
| South End | 20 | 11 | 154 | 147 |
| East Boston | 14 | 13 | 26 | 52 |
| North End | 12 | 10 | 34 | 65 |
| West End | 12 | — | — | — |
| South Boston | 17 | — | 51 | 70 |
| Boston Dispensary | 7 | 3 | — | — |
| Brighton | 6 | 9 | — | — |
| Charlestown | 13 | 7 | — | — |
| Codman square | 13 | 4 | — | — |
| Hyde Park | 14 | 5 | — | — |
| Totals | 128 | 62 | 265 | 334 |

## TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING OCTOBER, 1928.

| Classification. | Number. | Percentage. |
|---|---|---|
| After death | 7 | 23.33 |
| Seven days or less | 2 | 6.67 |
| Eight to fourteen days, inclusive | 3 | 10.00 |
| Fifteen to twenty-one days, inclusive | 1 | 3.33 |
| Twenty-two to thirty-one days, inclusive | 2 | 6.67 |
| Within First Month. (Total) | 15 | 50.00 |
| Within second month | 4 | 13.33 |
| Within third month | 1 | 3.33 |
| Within fourth month | 1 | 3.33 |
| Within fifth month | 2 | 6.67 |
| Within sixth month | 1 | 3.33 |
| Within seventh month | 1 | 3.33 |
| Within eighth month | — | — |
| Within ninth month | — | — |
| Within tenth month | 2 | 6.67 |
| Within eleventh month | — | — |
| Within twelfth month | — | — |
| Within First Year Preceding Death. (Total) | 27 | 89.99 |
| Within second year | 1 | 3.33 |
| Within third year | 1 | 3.33 |
| More than three years | 1 | 3.33 |
| Grand totals | 30 | 99.98 |

## CHILD HYGIENE DIVISION.

| | |
|---|---|
| Inspections | 13 |
| Physical examinations | 834 |
| Toxin-antitoxin injections | 2,632 |
| Schick | 122 |
| Vaccinations | 940 |
| Vaccination certificates issued | 437 |
| Anti-typhoid innoculations | 9 |
| Day nursery visits | 19 |
| Parochial school visits | 118 |
| Total | 5,124 |

## TOXIN-ANTITOXIN INJECTIONS AND VACCINATIONS, OCTOBER, 1928.

| Station. | Toxin–Antitoxin. | | | | Number of Vaccinations. |
|---|---|---|---|---|---|
| | First. | Second. | Third. | Total. | |
| Old Town Hall, Brighton | 35 | 32 | 29 | 96 | 26 |
| 31 Lincoln street, Brighton | 11 | 7 | — | 18 | 11 |
| Charlestown Municipal Building | 1 | 5 | 35 | 41 | 68 |
| Codman Square Library | 47 | 36 | 48 | 131 | 134 |
| Columbia Road Municipal Building | 3 | 5 | 26 | 34 | 105 |
| 1 Arcadia street, Dorchester | 3 | 7 | 8 | 18 | 99 |
| East Boston Health Unit | 2 | — | — | 2 | 9 |
| Hyde Park Municipal Building | 10 | 7 | 13 | 30 | 43 |
| Curtis Hall, Jamaica Plain | 3 | 10 | 28 | 41 | 36 |
| 41 North Margin street | 18 | 21 | 14 | 53 | 14 |
| Roslindale Municipal Building | 10 | 6 | 10 | 26 | 38 |
| Children's Hospital | 14 | 13 | 4 | 31 | 35 |
| 1049 Columbus avenue | 26 | 22 | 22 | 70 | 110 |
| Vine Street Municipal Building | 9 | 2 | 16 | 27 | 67 |
| 133 Dorchester street, South Boston | 2 | 5 | 3 | 10 | 43 |
| 122 Tyler street | 2 | 3 | 2 | 7 | 18 |
| Shawmut Avenue Municipal Building | 6 | 6 | 1 | 13 | 29 |
| 57 East Concord street | 7 | 11 | 7 | 25 | 16 |
| 17 Blossom street | — | — | — | — | — |
| Totals | 209 | 198 | 266 | 673 | 901 |

## MONTHLY REPORT OF CHILD HEALTH CONFERENCES, OCTOBER, 1928.

| Station. | Number of Babies. | Number of Preschool. | Total Attendance. | Number of New Babies. | Number of New Preschool. | Total New Cases. | Number of Conferences. | Average Attendance. |
|---|---|---|---|---|---|---|---|---|
| Old Town Hall, Brighton | 343 | 31 | 374 | 59 | 3 | 62 | 5 | 75 |
| 31 Lincoln street, Brighton | 93 | 25 | 118 | 15 | 1 | 16 | 4 | 30 |
| Charlestown Municipal Building | 400 | 16 | 416 | 60 | 2 | 62 | 10 | 42 |
| Codman Square Library | 594 | 79 | 673 | 102 | 16 | 118 | 10 | 67 |
| Columbia Road Municipal Building | 617 | 18 | 635 | 71 | 3 | 74 | 10 | 54 |
| 1 Arcadia street, Dorchester | 340 | 9 | 349 | 51 | 1 | 52 | 9 | 39 |
| East Boston Health Unit | 494 | 32 | 526 | 91 | 2 | 93 | 9 | 48 |
| Hyde Park Municipal Building | 324 | 34 | 358 | 39 | 7 | 46 | 5 | 72 |
| Curtis Hall, Jamaica Plain | 328 | 17 | 345 | 48 | 2 | 50 | 5 | 71 |
| 41 North Margin street | 292 | 122 | 414 | 47 | 8 | 55 | 9 | 46 |
| Roslindale Municipal Building | 419 | 102 | 521 | 45 | 6 | 51 | 5 | 104 |
| Children's Hospital | 201 | 18 | 219 | 28 | 2 | 30 | 5 | 44 |
| 1049 Columbus avenue | 402 | 38 | 440 | 57 | 4 | 61 | 9 | 49 |
| Vine Street Municipal Building | 529 | 32 | 561 | 74 | 2 | 76 | 9 | 62 |
| 133 Dorchester street, South Boston | 505 | 108 | 613 | 80 | 48 | 128 | 9 | 68 |
| 122 Tyler street | 170 | 48 | 218 | 17 | — | 17 | 5 | 44 |
| Shawmut Avenue Municipal Building | 218 | 42 | 260 | 22 | 3 | 25 | 5 | 52 |
| 57 East Concord street | 150 | 22 | 172 | 18 | 1 | 19 | 4 | 43 |
| 17 Blossom street | 475 | 79 | 554 | 42 | 2 | 44 | 9 | 70 |
| Totals | 6,894 | 872 | 7,766 | 966 | 113 | 1,079 | 136 | 57 |

## DENTAL ACTIVITIES AT HEALTH UNITS.

OCTOBER, 1928.

| | East Boston. | North End. | South Boston. | South End. | West End. | Total. |
|---|---|---|---|---|---|---|
| Number of cases seen | 597 | 653 | 575 | 538 | 592 | 2,955 |
| Number of treatments by dentist | 1,478 | 972 | 1,014 | 960 | 957 | 5,381 |
| Number of treatments by hygienist | 104 | 77 | 72 | ..... | 126 | 379 |

Cases referred by: Public schools; parochial schools; roof (T. B. contacts); Home for Destitute Catholic Children; parents.

## HEALTH UNIT ACTIVITIES.

OCTOBER, 1928.

BOSTON DISPENSARY:

| | |
|---|---|
| Calls by district physician | 133 |

BOSTON LYING-IN HOSPITAL:

| | |
|---|---|
| Number of clinics | 21 |
| Total attendance | 269 |
| Number new cases | 68 |

COMMUNITY HEALTH ASSOCIATION:

| | |
|---|---|
| Homes visited | 9,211 |
| Cases referred | 457 |
| Diseases reported | 17 |
| Number of meetings of mothers' clubs | 12 |
| Total attendance | 280 |
| Number of staff meetings | 2 |
| Total attendance | 33 |

STATE DEPARTMENT OF MENTAL DISEASES:

| | |
|---|---|
| Number of clinics | 2 |
| Total attendance | 11 |
| New cases | 4 |

CHILDREN'S HOSPITAL — INFANTILE CLINICS:

| | |
|---|---|
| Number of clinics | 7 |
| Total attendance | 58 |
| New cases | 2 |

FAMILY WELFARE SOCIETY:

| | |
|---|---|
| Number of staff meetings | 7 |
| Total attendance | 70 |

CATHOLIC CHARITABLE CLUB:

| | |
|---|---|
| Number of meetings | 4 |
| Total attendance | 61 |

MEDICAL SOCIETY OF EAST BOSTON:

| | |
|---|---|
| Number of meetings | 1 |
| Total attendance | 10 |

| | |
|---|---|
| American Red Cross: | |
| Number of home nursing classes | 4 |
| Total attendance | 28 |
| Refractions Service: | |
| Number of refractions | 146 |
| New cases | 38 |
| Glasses recommended | 60 |

## NURSING DIVISION.

| | | |
|---|---|---|
| Homes Visited | | 18,821 |
| Child Hygiene: | | |
| Visits to new cases | 1,850 | |
| Visits to old cases | 13,502 | |
| Total | | *15,352 |
| Communicable Diseases: | | |
| Visits to new cases | 400 | |
| Visits to old cases | 840 | |
| Total | | †1,240 |
| Tuberculosis: | | |
| Visits to new cases | 222 | |
| Visits to old cases | 5,046 | |
| Total | | ‡5,268 |
| Miscellaneous Visits: | | |
| Infant death investigations | 65 | |
| Maternal death investigations | 1 | |
| Patients accompanied to hospital | 3 | |
| Posture clinics | 12 | |
| Other special visits | 3 | |
| Visits to parochial schools | 711 | |
| Day nurseries | 6 | |
| Total | | 801 |
| Total number of visits | | 21,860 |

| | Hrs. | Min. |
|---|---|---|
| Hours in station by nurses | 3,955 | 50 |
| Hours in baby conferences | 2,326 | |
| Hours in tuberculosis clinics | 791 | 20 |
| Hours in posture classes | 5 | 30 |
| Total number of hours | 7,078 | 40 |

* Includes 165 wrong addresses; 1,798 not seen; 1,963 absent visits.

† Includes 10 wrong addresses; 62 not seen; 72 absent visits; 151 ophthalmia visits.

‡ Includes 41 wrong addresses; 709 not seen; 750 absent visits; 2,235 positive cases visited; 1,336 contact cases visited; 947 suspect cases visited.

# VITAL STATISTICS, OCTOBER, 1928.

## BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING OCTOBER, 1928, WITH COMPARATIVE FIGURES FOR OCTOBER, 1927.

| | BIRTHS AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | Actual Number. | | | Rate per 1,000 Population, Except Where Otherwise Specified. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| **All Causes:** | | | | | | |
| Total deaths | **916** | 891 | +25 | **13.75** | 13.48 | +.27 |
| Nonresidents deducted | **737** | 720 | +17 | **11.07** | 10.89 | +.18 |
| **By Age:** | | | | | | |
| Under one year | **88** | 129 | —41 | **1.32** | 1.95 | —.63 |
| One year to four years, inclusive | **20** | 39 | —19 | **.30** | .59 | —.29 |
| Sixty years and over | **446** | 360 | +86 | **6.70** | 5.45 | +1.25 |
| **By Special Causes:** | | | | | | |
| Degenerative Diseases, So Called: | | | | | | |
| Apoplexy | **62** | 59 | +3 | **.93** | .89 | +.4 |
| Arteriosclerosis | **23** | 14 | +9 | **.34** | .21 | +.13 |
| Heart disease | **203** | 148 | +55 | **3.05** | 2.24 | +.81 |
| Nephritis, chronic | **45** | 47 | —2 | **.67** | .71 | —.04 |
| Infant and Maternal Mortality: | | | | | | |
| *a.* Total registered live births | **1,343** | 1,396 | —53 | **20.16** | 21.12 | —.96 |
| *b.* Registered stillbirths | **42** | 27 | +15 | **.63** | .41 | +.22 |
| Stillbirths per 1,000 births and stillbirths | — | — | — | **30.32** | 18.97 | +11.35 |
| *c.* Deaths of mothers from causes incident to childbirth | **12** | 13 | —1 | **.18** | .20 | —.02 |
| Deaths of mothers per 1,000 births and stillbirths | — | — | — | **8.66** | 9.13 | —.47 |
| Deaths of children in first year of life | **88** | 129 | —41 | **1.32** | 1.95 | —.63 |
| Deaths in first year per 1,000 live births, | — | — | — | **65.52** | 92.41 | —26.89 |
| **Violence:** | | | | | | |
| Accidents | **63** | 57 | +6 | **.94** | .86 | +.08 |
| Homicides | **5** | 4 | +1 | **.07** | .06 | +.01 |
| Suicides | **11** | 15 | —4 | **.16** | .23 | —.07 |
| **Miscellaneous:** | | | | | | |
| Alcoholism, acute or chronic | **8** | 5 | +3 | **.12** | .07 | +.05 |
| Broncho-pneumonia | **59** | 36 | +23 | **.88** | .23 | +.65 |
| Cancer | **107** | 112 | —5 | **1.61** | 1.69 | —.08 |
| Cirrhosis of the liver | **4** | 3 | +1 | **.06** | .04 | +.02 |
| Diabetes mellitus | **13** | 12 | +1 | **.19** | .18 | +.01 |
| Diarrheal diseases, children under two years of age | **14** | 34 | —20 | **.21** | .51 | —.30 |

| | CASES AND DEATHS. | | | | | |
|---|---|---|---|---|---|---|
| | ACTUAL NUMBER. | | | RATE PER 1,000 POPULATION, EXCEPT WHERE OTHERWISE SPECIFIED. | | |
| | 1928. | 1927. | Increase or Decrease. | 1928. | 1927. | Increase or Decrease. |
| COMMUNICABLE DISEASES: | | | | | | |
| Anterior poliomyelitis.....Cases.. | 13 | 124 | —111 | .19 | 1.88 | —1.69 |
| Deaths. | 1 | 17 | —16 | .015 | .26 | —.245 |
| Cerebrospinal meningitis.....Cases.. | 1 | 1 | — | .015 | .015 | — |
| Deaths. | 1 | 1 | — | .015 | .015 | — |
| Diphtheria.....Cases.. | 66 | 78 | —12 | .99 | 1.18 | —.19 |
| Deaths. | 2 | 6 | —4 | .03 | .09 | —.06 |
| Influenza.....Cases.. | 13 | 13 | — | .19 | .20 | —.01 |
| Deaths. | 2 | 2 | — | .03 | .03 | — |
| Measles.....Cases.. | 20 | 259 | —239 | .30 | 3.92 | —3.62 |
| Deaths. | 1 | 2 | —1 | .015 | .03 | —.015 |
| Pneumonia (lobar).....Cases.. | 92 | 76 | +16 | 1.38 | 1.15 | +.23 |
| Deaths. | 32 | 29 | +3 | .48 | .44 | +.04 |
| Scarlet fever.....Cases.. | 120 | 158 | —30 | 1.80 | 2.39 | —.59 |
| Deaths. | — | 2 | —2 | — | .03 | —.03 |
| Tuberculosis (pulmonary).....Cases.. | 114 | 108 | +6 | 1.71 | 1.63 | +.08 |
| Deaths. | 30 | 51 | —21 | .45 | .77 | —.32 |
| Tuberculosis (other forms).....Cases.. | 19 | 23 | —4 | .28 | .35 | —.07 |
| Deaths. | 4 | 8 | —4 | .06 | .12 | —.06 |
| Typhoid fever.....Cases.. | 10 | 13 | —3 | .15 | .20 | —.05 |
| Deaths. | 1 | 3 | —2 | .015 | .04 | —.025 |
| Whooping cough.....Cases.. | 65 | 103 | —38 | .97 | 1.56 | —.59 |
| Deaths. | — | 3 | —3 | — | .04 | —.04 |

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1928 (mid-year), based upon the federal census of 1920, has been used.

**DO NOT DESTROY.**

When you have no further use for this Circular give it to someone else.

SEP 30 1935